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THE NEED FOR MORE PROMPT AND THOROUGH TREATMENT OF CHILDREN SUFFERING FROM RHEUMATISM OR CHOREA.

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THE medical man who is called upon to treat a rheumatic or choreic child has a great responsibility—too often overlooked, and a splendid opportunity—too often lost! For he has the chance of arresting in its earliest stage a morbid process which, if unchecked, may be fatal within a few weeks or months; and which, if inadequately treated, may relapse again and again, and may so damage the child's heart as to cripple its energies and to cut short its life. Almost the whole of the heart-disease which exists in patients under thirty years of age and a very considerable proportion of the heart-disease of later life is the result of a rheumatic infection in childhood, which was either unrecognised or ineffectively treated. It is very easy to overlook a cardiac rheumatism in a child unless the physical examination is promptly and thoroughly carried out, for the cardiac muscle may be greviously affected though no murmur is to be heard on auscultation, and the external evidence of rheumatism afforded by arthritis, so abundant in the adult, may be almost or even entirely lacking in the child. And if the actual condition of the heart of a

child suffering from rheumatism has been accurately diagnosed, the treatment is only too likely to be entirely inadequate. There are few medical men who are convinced that sodium salicylate is as specific against rheumatism as quinine is against malaria or mercury against syphilis; there are yet fewer who will not give up the drug as soon as any unpleasant side-effect is produced, and fewer still who know how to avoid these difficulties and how to succeed in accustoming the patient to large and frequent doses of the drug. Yet this accurate and early diagnosis and this prompt and thorough treatment are both necessary if the rheumatic process is to be arrested and lamentable cardiac injury to be avoided. If these two essentials were supplied by every medical man who undertakes to treat a rheumatic child, it is quite certain that the amount of heart-disease found in the next generation among adults would be very much less than that now existing.

The fate of the patient depends mainly upon the action or inaction of the medical man in whose charge he is placed; this fact involves a heavy responsibility which at present is hardly realised.

Every child who complains of sore throat or of pains in his joints, muscles, or tendinous structures, every child who suffers from malaise and unexplained pyrexia, every child whose skin shows spots of erythema or who has subcutaneous nodules on his tendons or round his joints, or subperiosteal nodules on his bones, every child who has pain in the chest, or shortness of breath, or marked pallor, and every child exhibiting even slight choreic movements or merely weakness and inco-ordination of muscular action or emotional instability should be at once put to bed, and his heart should be promptly and most carefully examined.

The earliest evidence of cardiac rheumatism in a child or in an adult is obtained, not by auscultation, but by percussion. For the affection of the cardiac muscle precedes, probably in all cases, any endocarditis or pericarditis, and the earliest cardiac rheumatic phenomenon, as I pointed out ten years ago,* is an acute dilatation of the left ventricle, which is easily recognised by a careful light percussion. For this purpose it is necessary to avoid every kind of artificial pleximeter, to press the terminal phalanx of a finger of the left hand firmly on the spot to be percussed, keeping the whole of the rest of that hand away from the chest-wall, and to percuss lightly on this terminal phalanx by a finger of the right hand bent and used as a hammer. By this method it is quite easy to determine the extent of the true cardiac dullness to the right and to the left

* 'Med. Chir. Trans.,' 1898, p. 401.

and therefore the true size of the heart. The "superficial dullness," as it is called, indicates merely the extent of the heart not covered by lung, and is nearly worthless; what is wanted is the real size of the heart. In the normal heart it is always possible to detect nearly one fingerbreadth of dullness to the right of the sternum in the fourth intercostal space, produced by the right auricle, and the dullness of the left ventricle extends a little beyond the position of the cardiac impulse, but not so far as the left nipple-line.

In a first attack of rheumatism the dullness of the right auricle is often unaltered, but that of the left ventricle is always increased towards the left; almost always it reaches the left nipple-line, usually it extends still further, frequently one fingerbreadth to the left of it, sometimes even two fingerbreadths. Along with this evidence of dilatation of the left ventricle there will be a diffused and weakened cardiac impulse, a weaker pulse-wave in the arteries, a shortened or enfeebled first sound at the apex, and a distinct accentuation of the pulmonary second sound. The aortic second sound is often increased also. A systolic murmur at the apex may be absent or present. The pulse-rate is abnormally frequent, and a further increase quickly follows a slight exertion.

The nature of the morbid changes in the heart-wall which underlie these clinical phenomena have been carefully described by Dr. Carey Coombs in a recent article on "Rheumatic Myocarditis" in the 'Quarterly Journal of Medicine,' vol. ii, No. 5. The cardiac muscle-cells are found to be affected by "a fatty change, which is most pronounced in the wall of the left ventricle, particularly in the papillary muscles and beneath the pericardium." This is clearly the result of some toxæmia; it is a proof of the existence of a poisonous action exerted on the muscle-cells. The extent of the damage to these cells is, however, not completely revealed by the obvious fatty changes; it must be estimated by the muscular atony produced, which permits of a rapid dilatation of the ventricle. This may become extreme. "Dilatation of both ventricles is constant, and often of considerable degree; the auriculo-ventricular orifices share in the stretching." Further light on the nature of the morbid process is obtained by the examination of the interstitial connective tissue around and between the cardiac muscular bundles. In this structure "nodules are formed, consisting entirely of large cells, many of which are multinucleate, and which seem to be fibroblastic in nature. . . . They develop especially in the neighbourhood of arteries and arterioles; the left ventricle is far more affected than the right, particularly near the root of the aorta and the mitral ring

and at the apex near the ventricular septum." They are "most thickly sown in the central parts of the myocardium," but they are also freely scattered "just under both serous layers, especially in the subpericardial tissues." They must be "regarded as a highly characteristic form of connective tissue reaction to irritation." They are found also "in the valves near their free edges, and in the chordæ tendinæ at some depth from the endothelial surfaces." Dr. Coombs concludes that these nodules "represent the reaction of the connective tissues to an infection rather than an intoxication only, and that the infective agent itself comes in contact with the tissues at the points where the nodules form."

The "infective agent itself" has been revealed by the researches of Poynton and Paine.* In more than thirty cases of rheumatism and chorea they have demonstrated the presence of a diplococcus, and they have shown that this microbe is capable of producing in rabbits not merely endocarditis, but cardiac dilatation, myocarditis, pericarditis, arthritis, pleurisy and pneumonia, also subcutaneous nodules and teno-synovitis; in short, *all the severe lesions found in a rheumatic child*. And Dr. Vernon Shaw, working with a culture of their micro-organism, produced similar cardiac lesions together with multiple arthritis in monkeys.

I add two facts within my own knowledge. The first is that a rheumatic nodule of recent origin in a child in St. Mary's Hospital, when excised by Dr. Poynton under aseptic precautions, at once placed in a sterile nutritive medium and incubated for forty-eight hours, showed on section (as I can testify) an exuberant and pure growth of a diplococcus. Since the "nodule" is especially distinctive of rheumatism, this observation appears very convincing. The second fact is that a diplococcus was obtained *from the blood* in more than one of my rheumatic patients during life, and that in one of these cases the infection was certainly not simply "terminal," as suggested by sceptical bacteriologists, for the patient is still alive, and in good health, eight years after the venesection.

The acute dilatation of the left ventricle, above described, is present even in the mildest attacks of "subacute rheumatism." During the ten years which have elapsed since the reading of my paper, and of a following paper conjointly with Dr. Poynton, at the Royal Medical and Chirurgical Society, I have never seen a first attack of this disease, either in a child or in an adult, in which this dilatation was absent. This means that, even in the most "subacute" case, the cardiac muscle-cells are more or less poisoned, and that in the con-

* 'Lancet,' 1900, vol. ii, pp. 861 and 932, and subsequent papers.

nective tissue which surrounds them pathogenetic bacteria are present. Hence it is obvious that even the mildest case ought to be at once put to bed and kept in complete rest. A practitioner who allows himself to be misled by the apparent triviality of the symptoms is doing his patient a grievous and, perhaps, an irreparable injury. To keep the child at rest for a time can do nothing but good, whatever be the cause of his cardiac dilatation. If any distinctively rheumatic symptom (however slight) is present, salicylate of soda in sufficient doses should be at once administered, and to each dose should be added twice as much of sodium bicarbonate. If any unpleasant side-effect, *e. g.* vomiting, should be produced by the salicylate, the medicine should be discontinued for a few hours. It should then be repeated, but in only half or two thirds of the former amount, and the size of the dose can then be rapidly increased. If any further difficulty occurs this process should be repeated. It is possible in this way to train nearly all patients to tolerate large doses of the drug, and the curative effect is very greatly increased.

In the more severe cases of rheumatism, especially where pericarditis is present, the local application of an ice-bag is often of extreme value. For further details as to method, and as to necessary precautions, I must refer to my recent article on "The Effective Treatment of Acute and Subacute Rheumatism," in the 'British Medical Journal' of January the 16th, 1909. It is only necessary to add that whenever salicylate is given to rheumatic children, the bowels must be kept open, and the urine should be rendered slightly alkaline; these are the two conditions of safety.

With regard to chorea, although it has not yet been proved that chorea in a child is in all cases of rheumatic origin, yet it is quite certain that the great majority are due to a rheumatic infection. Every case of chorea in childhood ought, therefore, to be considered as presumably rheumatic, and ought to have the benefit of this probability. Every case ought to be at once sent to bed, and treated vigorously as for rheumatism.

CASE OF SYPHILITIC SYNOVITIS.

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An unusual case of syphilitic synovitis has lately come under my notice at the Children's Hospital, Temple Street, Dublin. A girl, aged 5 years, was sent up to the hospital from the country with a history of several months' illness. No diagnosis seemed to have been made and the child was treated by general tonics. After examination of the child a history of repeated miscarriages of the mother was elicited.

The child was carried into the hospital, being unable to walk. She was pale, but fairly nourished. She seemed extremely weak and could only sit up with difficulty. She was unable to stand up. The teeth were regular, and there was no depression of the nose nor scars about the mouth. She was slightly feverish, and flushed during examination. She complained of no pain, even on being moved. She was quite intelligent, but appeared depressed. On further examination her joints revealed an extraordinary condition. Both knees, ankles, wrists and elbows were swollen. The knees were especially large and distended with fluid. The muscles of the extremities were wasted and flabby, and enlarged glands were quite palpable in the groin, axillæ, and neck, in front of the sterno-mastoid at the angle of the jaw. Nothing else abnormal was discovered. The temperature was 100° F.

The child was admitted to hospital and for a month received mercurial treatment, including three grains of potassium iodide three times a day. Equal parts of lanoline and mercurial ointment were applied to the joints affected, and the child got all the nourishment she could take. Syrup of the iodide of iron was also prescribed.

As was feared, no improvement in the condition took place of any importance, and she left the hospital. During her stay she was subject to slight febrile attacks. About twice in the week her temperature would rise to 100° F. and then subside after a day or two. The mercurial treatment is being continued at home.

The case was one of those sometimes reported of extreme chronicity and intractability to treatment. It was unusual in its severity, in the number of joints affected, and in their symmetrical location.

Dr. G. A. Sutherland (1), after referring to the inutility of drainage

of the joints in such cases, says: " . . . my own experience of syphilitic synovitis has been that this affection, like interstitial keratitis, tends to run a prolonged course, over several years, it may be, with temporary improvement, with possibly a period of cessation and then a relapse, and that no treatment, mercurial or otherwise, will have any direct effect." Mr. D'Arcy Power (2), speaking of these

FIG. 1 shows enlarged joints, wrists, knees, and ankles.

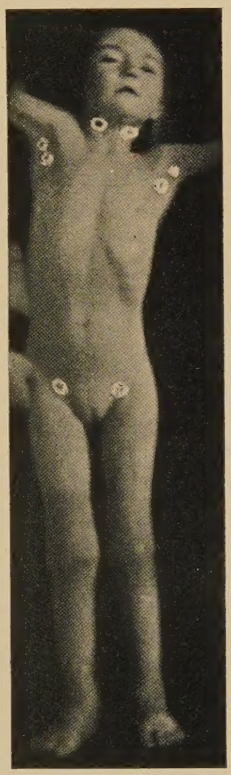

FIG. 2 shows enlarged glands.

cases, says: "These patients are often so completely permeated by syphilis that very little can be done for them." There is no doubt that in this case the child was "completely permeated with syphilis." The number of joints affected, the cachexia, the febrile attacks, and the failure of mercurial treatment suffice to prove it. Such a child is much better off in the country, where it can have abundance of wholesome food and fresh air. In the maintenance of strength lies the only hope of cure after a weary struggle; and that is but small

when one considers the probability of the entrance of tuberculosis and the feeble resisting power to oppose its ravages.

References.

1. G. A. Sutherland.—'The Treatment of Diseases in Children,' 2nd impression.
2. D'Arcy Power.—'Surgical Diseases of Children.'

ON SOME FORMS OF CHRONIC LUNG DISEASE IN CHILDHOOD.*

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(*Continued from page* 60.)

Chronic bronchitis.—When one refers to the books for the causes of this affection in childhood the information obtainable is scanty. To quote one observer, "Chronic bronchitis is sometimes the result of an acute attack or several such; it sometimes remains after whooping-cough; sometimes it is a sequel of atelectasis, and sometimes all we can say is that it exists, but how it came about there is no evidence to show."

One could add, with Hoffman, that post-nasal obstruction is also very frequent, both as a cause and as an accompaniment.

The affection exists in every degree, but in the more pronounced and confirmed conditions, to which I particularly refer, there is more or less cyanosis, alterations in the shape of the chest, bulbous finger-ends, generally lethargic movements, and a frequent short, moist cough. There is no doubt that localised tubal dilatation exists in some of these cases, and that they are, in fact, the early stages of bronchiectasis.

In many of the books there is failure to distinguish between chronic bronchitis, which is simply bronchitis, and that in which there is tubal dilatation. Pepper, for instance, describes all the cases under the title of bronchitis, ignoring bronchiectasis as meriting a separate description. Goodhart, in describing the post-mortem appearances, proves that he is referring almost exclusively to cases in which dilated tubes exist. He certainly made special allusion to

* Being, together with illustrative clinical cases, a Post-Graduate Demonstration given at the Leeds Public Dispensary.

bronchiectasis, remarking that it is an open question as to whether it should be considered a distinct disease.

All this goes to show that no sharp line can be drawn between simple chronic bronchitis and early bronchiectasis. I think the question of title is important. I agree with the view which is gaining ground that in many of these cases of so-called simple, chronic bronchitis there is a dilatation of the tubes left over from the original acute attack. If ectasy does exist let us recognise the fact by labelling them, as far as we can, as bronchiectatic. For there is an important clinical difference between the two affections; the dilatation maintains the chronic bronchitis, and this, in a vicious circle, increases the tubal dilatation.

In such cases the disease progresses in one of three main ways:

(1) Continuance as simple chronic bronchitis with progressive aggravation of symptoms, ultimately resulting in right heart failure.

(2) Development into unequivocal cases of bronchiectasis.

(3) After a variable period—which, for the encouragement of those who have to treat them, may be a very long one—certain cases may get well; this may happen even where there has been some tubal dilatation.

Here, again, Goodhart says: "Such cases, however, repay care, for again and again they may pull through a serious attack when apparently they are in an almost hopeless state, and I think that one is justified in saying that, in many cases, something amounting to repair goes on. In young children it is not incorrect to say that they may grow out of it, for they greatly improve as their ribs stiffen. But there are other risks, and these come about by the medium of dilated bronchial tubes."

Bronchiectasis.—By now it will be apparent that I am inclined to assign this condition an important place in the pathology of the cases under discussion. The full consideration of bronchiectasis occupies a large and much disputed field, and I do not propose to enter it. The fact about which there is no doubt is that a large proportion of all cases of bronchiectasis take origin in early life. Arnold Chaplin states that out of 200 cases under his notice 60 dated the onset of the disease from some acute lung attack in childhood. The common history which he obtained was congestion of the lung complicating measles or whooping-cough, or some other acute infection, with persistence of the cough. My own cases show, for the most part, a similar beginning, and the frequency of bronchiectasis in early life will therefore be readily appreciated.

Yet the prevailing idea seems to me to be that bronchiectasis is *rare* in childhood, and the explanation would seem to be that what may be termed "developed cases" are certainly not of frequent occurrence under ten years of age, but still are not as rare as is sometimes alleged. The extreme chronicity of the cases and the slow increase of their symptoms and signs is such that their true nature may not be realised till the patients themselves have passed out of childhood. And then it will generally happen that not the mother but the patient gives the history, and what is more than likely that such history is clipped and slurred over from sheer lack of knowledge on the part of the patient about the beginning of his own case.

A special variety of bronchiectasis in early life is sometimes described as *bronchiolectasis*, or dilatation of the smaller tubes, with an acute or subacute course. Some of the recorded cases are of uncertain pathology, but there is certainly no difficulty in seeing in the widespread dilatation of the smaller tubes, which occurs in connection with certain pulmonary inflammations, an extreme instance of the way in which ectasy may complicate such inflammations in early life.

It is disputed whether bronchiectasis is a primary or a secondary affection. Though interesting, the matter is not of great practical importance. What is both indisputable and important is that certain pulmonary affections—more especially catarrhal pneumonias, and particularly when complicating whooping-cough and measles—are liable to be followed by the dilatation of the tubes, and to be attended by certain symptoms such as I have described.

It is now regarded as probable that yielding and dilatation of the tubes frequently takes place in the acute stage of the original inflammation: and Fox insists that such dilatation is readily recovered from in children, explaining thus the infrequency of bronchiectasis in spite of the great frequency of bronchitis. Ewart, writing in 'Allbutt's System,' says: "The post-mortem recognition of a dilatation of the small tubes in connection with certain symptoms noted during life led observers to infer that in other cases also, which presented the same symptoms that ultimately ended in recovery, the same lesions had existed without proving fatal; and it is upon this assumption, which is probable enough, but not capable of demonstration, that rests the current belief that children may completely recover from acute bronchiectasis. Granting that recovery may be possible it may in a proportion of the cases be but partial; and in these the dilatations persisting in some portions of the lung may

lapse in the course of years into the common bronchiectasis of the larger tubes."

This local persistency I hold to furnish the explanation of many of the cases of delayed resolution referred to above—cases in which the tubes are slow in recovering. If instead of recovering the dilatation persists, we then have the formation of a bronchiectatic area more or less limited, generally attended with fibrosis of the adjacent lung tissue. This may slowly develop into the typical cases of later life, or—and this is an important practical fact—the condition may, even though rarely, be cured by an obliterative fibrosis.

But more frequently than is supposed does a series of chronic lung cases in childhood furnish typical examples of bronchiectasis, and it is convenient here to briefly outline the clinical features of these cases. To get a better picture of this disease one divides it—arbitrarily, of course—into stages. I prefer to follow Hoffman in differentiating three such. In the first the affection is apt to be confounded with an ordinary bronchitis; but we notice that the bronchitic symptoms appear especially and persistently in certain circumscribed areas: or, as Goodhart puts it, "the physical signs are those of coarse bronchitis, with occasionally some sharp râles here and there. It is but seldom that anything suggestive of cavitation is heard when the dilatation of the tubes is at all generally distributed throughout the lung; probably because these dilatations usually occur in the substance of the lung, and are surrounded by vesicular pulmonary tissue."

In the second stage the case becomes more characteristic. With a satisfactory general condition we find a surprising irregularity in the expectoration; it is at times scanty and at times very abundant; there may be a marked periodicity, so that at certain times of the day (especially the first thing in the morning on arising) there is an abundant expectoration, which may be almost or wholly absent at other times of the day. This condition may last a very variable time and may remain stationary for years.

This stage is especially distinguished by the "cyanotic habit," and stands for bronchiectasis pure and uncomplicated. There are local physical signs, generally basal, but, as noted previously, in rare and exceptional cases they may be apical, thus leading to a suspicion of phthisis. The "wearing-out" tendency of the affection is in the direction of emphysema and right-heart strain, and this, together with the prevention of the third or septic stage, supplies the indications for treatment.

But generally the third stage, that of septic cachexia, is reached sooner or later owing to the tubal contents becoming secondarily infected. This aggravates all the pre-existing conditions—the bronchitis, emphysema, and right-heart strain and the symptoms due to them, but in addition, the patient runs two great risks, firstly, that of local septic accidents, such as abscess, gangrene, and septic pneumonia, and secondly, the results of septic absorption. This may take the form of metastasis—abscesses in the brain are not infrequent—pyæmia, or lardaceous disease.

Pure uncomplicated fibrosis of the lung may arise from a variety of causes. Unless complicated by tubal dilatation, which, however, is the rule, it may not give rise to much trouble. What symptoms do exist are generally due to the affection of the rest of the lung—for instance, emphysema—that may have developed *pari passu* with the fibrosis.

An uncomplicated fibrotic area in the lungs produces more in the way of physical signs than symptoms. There is usually well-marked localised dulness and recession of the chest-wall in proportion to the extent of the fibrosis, and the heart is usually drawn towards the fibrotic area: some amount of chronic cough and expectoration is present. These simple fibrotic cases are relatively infrequent, and from the fact that symptoms are slight are those most likely to be discovered on routine examination of the chest. A careful investigation of the history and a consideration of the physical signs present will almost without exception enable tuberculosis to be excluded in childhood.

But in bronchiectasis the rule is for secondary changes to occur: as Walshe puts it, the surrounding tissue is either slightly condensed by pressure, hardened by chronic pneumonia, rarefied by emphysema, or perfectly natural. And nearly every case of bronchiectasis of any standing is accompanied by fibrosis around the tubes. In such conditions the physical signs of consolidation and retraction tend to be more marked, and the periodicity and abundance of the expectoration less marked than in simple bronchiectasis.

This combination of fibrosis and bronchiectasis has given rise to much dispute. Sir Dominic Corrigan's classical description of lungs so affected and his theory of the cause of the dilatation passed current for many years. According to him the adhesive pleurisy which invariably exists enables the fibrous tissue in the lungs, contracting as fibrous tissue must, to pull the tubes apart, thus making the dilatation secondary to the fibrosis. This view is now vigorously assailed, notably by J. K. Fowler and Hoffmann; they would place

the dilatation before, or at least coeval with the fibrosis, and maintain that all contraction of fibrous tissue must be centripetal, and therefore would tend to exercise an obliterative and curative action. We lack case-histories of pronounced ectasis undergoing cure; this view lends probability to the statement that it does happen in exceptional cases.

Atelectasis of considerable portions of the lung, such as occurs typically in early infancy under various conditions, takes a place in our series, if life be preserved and the condition persists. The persistent atelectatic areas undergo chronic progressive changes such as adhesion, bronchiectasis, or even tuberculosis.

There remains for consideration a small number of cases in which there exists a *single cavity*, of some size, giving rise to chronic discharge by expectoration. The condition may be left over from a pulmonary abscess—indeed, it is a chronic abscess—such as may follow a septic pneumonia after operations on the mouth or elsewhere, in one of my cases after an operation for adenoids. But the commonest cause is, perhaps, the bursting of an empyema into the lung and the persistence of a cavity with suppurating walls, retention of secretions, and periodic discharge. Empyemata may rupture internally, and the nature of the accident is either not recognised at the time or is forgotten in the subsequent history. These cases for the most part give rise to symptoms and signs indistinguishable from those resulting from bronchiectasis with more or less fibrosis. The prognosis is possibly better as regards the tendency to obliteration than in the bronchiectatic cases. The practical importance of making an exact diagnosis lies in the fact that when there is but a single cavity it may be drained by surgical means; this may sometimes be done with the happiest results. But the diagnosis is extremely difficult. As a rule very little help is afforded by the physical signs unless the cavity be a large one and near the surface; similarly there is nothing in the symptoms that may not be caused by bronchiectasis, with a series of cavities. One has to rely, therefore, mainly on the history, and this is especially difficult to verify in this class of case. A typical history would be that of onset by acute pneumonia, and then a sudden copious discharge of pure pus, with lessening evacuations at, say, longer and more irregular intervals than one would expect in a bronchiectasis.

Emphysema.—As a primary affection this occurs with extreme rarity in children. Secondarily it may, and often does, occur in association with almost all the above groups of cases. Similarly, too, true *asthma* falls outside my clinical group, though secondary

bronchial asthma may complicate some of the cases, though I think not with any great frequency.

I have sought to pass a large group of cases thus broadly in review, because it seems to me a better conception of their relationships is obtained. And in so doing, also, the more important points in differential diagnosis are developed. Of course, by such a brief survey one must suppress innumerable points of detail. I have made no serious attempt, for instance, to describe the physical signs of the various conditions. After all, these are well enough described in the books; the essential thing is to grasp the "underlying pathological possibilities"—as, for instance, that a chronic bronchitis may mask tubal dilatation.

There are many points of interest in the treatment of these cases. But here, again, a complete appreciation of all the facts of a case and an exact diagnosis therefrom is of the first and greatest importance.

These cases are met with in increasing frequency as we descend the social scale. A fuller knowledge of them will enable us to treat our cases of "delayed resolution" a good deal more seriously, to keep chronic pulmonary catarrh under as close and continuous supervision as possible. If we diagnose bronchiectasis, the most serious event for such a case is secondary infection by pyogenic organisms. The crowded air of cities is sure to bring this about in time, yet by prophylactic measures we can ward it off for a considerable period, or even indefinitely.

But what we want in studying chronic cases of this description is a very much greater number of reliable case-histories than we at present possess. And it is to the general practitioner that we must look for these, for he has the opportunity of observing cases over a number of years. We *assume* that a certain considerable proportion of these cases recover. We *prove* it but rarely. What we require is cases in which the physical signs have been carefully and continuously noted and correlated with the symptoms. Then, if a case gets well, the records will be of the greatest value.

THE HEATING OF MILK AS IT AFFECTS THE NUTRITION AND HEALTH OF THE INFANT.*

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The heating of milk given as food may produce an effect on the infant's nutrition and health in two ways: Firstly, it may alter the physico-chemical character of the milk either for better or worse as regards its suitability to the needs of the infant economy, and secondly, it may affect the adventitious bodies existing in milk, namely the micro-organisms and their products, with a consequent change in their physiological or pathological action. It is with the first of these two ways that the present paper is chiefly concerned, and for descriptive purposes the changes coming under this head may be divided into three main groups.

In the first place there are the obvious changes which occur when milk is heated in an open vessel, namely, an alteration in the taste, an alteration in the colour, and the formation of a skin or scum on the surface. The alteration in the colour and taste is due (in part at least) to the action of heat on the carbohydrate lactose, leading to the formation of small amounts of caramel, and, eventually, traces of formic acid. The characteristic taste is acquired with some suddenness at about 70° C., and gradually disappears if the milk is well cooled after boiling. The formation of a skin is a phenomenon not in any way peculiar to milk, but occurs in any emulsion in an albuminous medium. Jamison and Hertz† carefully investigated the whole matter in 1901, and found that it was due to the drying of the caseinogen on the surface of the milk; globules of fat are entangled in the dried protein, and if the temperature is raised above the coagulation point of the lactalbumin this sustance is also involved in the formation of the skin. No skin appears if the milk is heated in a closed vessel, and if the air over its surface is kept saturated with water vapour. The net result of this group of changes is not great as regards the value of milk as a food either for infants or adults. At most an infinitesimal quantity of lactose is destroyed and a small amount of protein thrown out of solution.

The second group of changes, which are less obvious and only demonstrable by careful experiment, produces far more important

* A paper read before the Bristol Medico-Chirurgical Society, February 10th, 1909

† 'Journ. of Physiology,' vol. xxvii, p. 26, 1901.

results. The boiling, by removing carbon dioxide from the milk, renders the calcium salts less soluble, with the result that the coagulation of the caseinogen by rennin is rendered less rapid and complete. Cautley,* who made a number of experiments on this point, showed that the coagulation by rennet and the precipitation by dilute acids were both adversely affected. The curd is softer and more flocculent and forms more slowly the longer the milk is heated and the higher the temperature is raised. This soft curd might be of advantage to infant digestion, but there are two further points to be considered. Leeds and Davis and also Koplik † found that heated milk was less easily coagulated, but that it was also less easily hydrolysed by pepsin and trypsin, and further, Hutchison has shown that the addition of an acid prevents the precipitation of the calcium salts, so that possibly in the stomach a hard, firm curd is formed owing to the action of gastric juice.

The heating of milk, especially if prolonged, destroys in all probability some of the lecithin, and increases the proportion of inorganic to organic phosphorus. The phosphates are also largely precipitated.

The physiological effect of these less obvious changes is shown in the results obtained by various observers. Rink found that consequent on the alteration in the proteins the fat globules were less perfectly emulsified and were less easily absorbed. Vasilieff experimenting with young men, Koplik with infants, and Weber ‡ with young calves showed that the nitrogenous constituents of milk were less completely absorbed when the milk had been heated. In older children (two and a half years), however, Bendix found that there was little difference in the absorption of boiled and unboiled milk. Thus, though the evidence is not quite unanimous, on the whole it seems probable that heating does render the absorption of the proteins and fats in milk less complete. Hutchison § details experiments showing that boiled milk takes longer to pass out of the stomach than fresh milk, but he admits that observers are not all agreed on the point, and that personal idiosyncrasy seems to play some part in the matter.

The exact physiological effect of the changes taking place in the phosphorus as a result of boiling is not yet determined, but it is possible that it may be of considerable importance. Gaglioni || has

* 'Feeding of Infants,' London, 1897, chap. xiii.

† Quoted by Cautley, *op. cit.*

‡ Quoted by Cautley, *op. cit.*

§ 'Principles of Dietetics,' second edition, London, 1901, p. 118.

|| 'Rev. di Clin. Pediat.,' March, 1903.

shown that boiling precipitates both organic and inorganic phosphorus, and that the latter is increased at the expense of the former. There is evidence that the organic compounds are more easily and completely absorbed than simple inorganic phosphates, and their diminution in cow's milk would seem to be particularly disadvantageous, seeing that (like the milk of other animals whose young are born with a fully developed nervous system) it is particularly poor in lecithin bodies. The new-born infant, with its nervous system still very imperfectly developed, requires a milk comparatively rich in organic phosphorous compounds, such as human milk is found to be.

We can now pass on to the consideration of the third group of changes, which are, perhaps, the most important of all, though they are so elusive that they cannot at present be recognised by ordinary chemical or physical methods. It includes all those changes which are due to the death of the cells contained in milk, and to such alterations in the soluble proteins as deprive them of what is known as their "vital properties."

In the first place certain enzymes, which are presumably of value to the young animal, are destroyed, as also are such bodies as precipitins and agglutinins which exist in fresh milk. The phagocytic power of the leucocytes is also, of course, abolished.

Another property of milk which is lost after heating is its so-called "bactericidal action." This was first studied by Fokker * in 1890, and has since been the object of a considerable amount of research. Two recent papers of importance are those of Myer Coplans † in 1907 and Rosenau and McCoy ‡ in 1908. Coplans showed that the growth of a laboratory strain of *Bacillus coli* was inhibited by new milk for six hours absolutely, and for a further eighteen hours partially at air temperature. At body temperature the first period was reduced to one hour and the second to two hours. If the milk was cooled to 0° C. for twenty-four hours, and then raised to air temperature, the period of inhibition was not so much shortened as when it was raised to 32° C. initially, the actual periods being three to nine hours for total and partial inhibition respectively. Boiling the milk for an hour on two successive days entirely abolished this phenomenon.

The results obtained by Rosenau and McCoy are very similar to those of Coplans. They consider the action inhibitory rather than

* 'Fortschritte der Med.,' 1890.

† 'Lancet,' 1907, vol. ii, p. 1074.

‡ 'Journ. Med. Research,' vol. xviii, p. 165, 1908.

bactericidal and show that it is not solely or mainly due to phagocytosis, as equally well-marked results were obtained from cell-free milk. As regards temperature they found that ten minutes' freezing had no effect, and even forty-eight hours at 0°C. had only an uncertain action. Boiling or heating above 80°C., however, always destroys the inhibitory action, while in certain cases a temperature of 60°C. or 55°C. may materially reduce it. A review of the literature given in their paper shows that the action on different bacteria varies, and that the milks of different animals or of the same animal at different times may show great variations in inhibitory power.

This property is no doubt of considerable importance in its relation to the use of milk as an infant food, especially in view of the numerous disturbances caused by the growth of bacteria in the intestinal canal. Clinical evidence, however, always carries more weight than merely experimental deductions, and from this standpoint we may note that there is a growing tendency to condemn the heating of milk intended for infants' food. Finkelstein* in Vienna, Daniloff† in Russia, and others have recently investigated the question, and have all come to the same conclusion as regards the great superiority of fresh milk. Sill ‡ investigated 179 consecutive cases of children carefully fed on pasteurised and sterilised milk, and found signs of rickets or scurvy in 97 per cent. Budin and his followers stand almost alone in advocating the prolonged heating of milk, and even Variot,§ though he found no cases of scurvy or rickets among 3000 children fed on milk sterilised at 100°C., admits that anæmia and constipation occurred, and that 3 to 4 per cent. of the children could not take the heated milk at all.

The late Dr. Ashby‖ said that in cases of suppurative pyelitis in children there was frequently a history of the use of sterilised milk, and Dr. Edmund Cautley ¶ has recorded the same opinion. As regards scurvy it appears at any rate certain that some constituent in the milk which is destroyed by heating is an important factor in its prevention. Dr. Coutts** has recorded three cases of infantile scurvy which failed to recover on ordinary anti-scorbutic diet as long as the pasteurised milk was continued, but which

* 'Wien. med. Woch.,' vol. xlvi, 1907.
† Abstract 'Archives of Pediat.,' vol. xx, p. 560, 1903.
‡ 'Med. Rec.,' 1902, p. 1016.
§ 'Comptes Rendus acad. des Sciences,' tome cxxix, No. 23.
‖ 'Brit. Med. Journ.,' 1907, vol. ii, p. 1638.
¶ 'Lancet,' 1908, vol. ii, p. 783.
** 'West London Med. Journ.,' 1906, p. 82.

rapidly improved as soon as fresh milk was given. I have elsewhere * expressed the opinion that in considering the ætiology of scurvy the personal factor must be duly recognised. The fact that of all children fed on cooked milk only a few manifest the classical symptoms shows that a special idiosyncrasy is essential for their production, and that probably others who show none of these symptoms are nevertheless adversely affected by being deprived of those "anti-scorbutic principles," whatever they may be, which are known to exist in fresh milk, and which possibly under such circumstances the infant economy is forced to manufacture for itself.

CASE OF EPITHELIOMA DEVELOPING IN THE SCAR OF A PLASTIC OPERATION FOR EXTROVERSION OF THE BLADDER.

By Percy Sargent, M.B., B.C., F.R.C.S.,

Surgeon to the National Hospital for the Paralysed and Epileptic; Assistant Surgeon to St. Thomas's Hospital.

The following case, although it must be of extreme rarity, affords an addition to the many reasons which exist for abandoning the unsatisfactory plastic methods of dealing with extroversion of the bladder. It also illustrates in a striking manner the well-known factor of prolonged irritation as a precursor of cancer.

The patient was a man, aged 39 years, who came under my care in August, 1905, whilst on duty for Mr. Bernard Pitts, into whose ward he was admitted. Thirty-five years previously Mr. Sidney Jones had performed a plastic operation for the deformity, which was so far successful that the bladder had been covered in with skin flaps, there remaining only a small lateral sinus on either side, through which, together with the artificial urethral opening, the urine escaped. With the help of an apparatus the man had been enabled to get about in fair comfort, and to earn his living. For about twelve months he had suffered from pain, and a swelling developed around one of the sinuses. When admitted he presented, in addition to a foul cystitis, the condition which can to some extent be made out from the accompanying photograph. Complete epispadias was present, but both testes were descended. On each

* 'Brit. Med. Journ.,' 1905, vol. ii.

side of the flap which covered in the bladder was a sinus through which urine was leaking, but whilst that on the right side presented no features of any note, that on the left was surrounded by a ring of epitheliomatous growth of characteristic appearance.

The growth also extended downwards as far as the mesial opening, which represented the artificial neck of the bladder. Enlarged, hard glands were present in both groins. The case was considered quite inoperable and he left the hospital, but I am unable to trace his further history.

THE ORIGIN OF THE FEEBLE-MINDED.*

By W. A. Potts, B.A.Cantab., M.D.Edin., M.R.C.S.Eng.,
Late Medical Investigator to the Royal Commission on the Care and Control of the Feeble-minded.

Although it is only three and a half years since I read a paper on the "Causation of Mental Defect in Children" in the Psychological Section at the Annual Meeting of the British Medical Association at Leicester, so much work has been done in the interval, and, in consequence of the recent Report of the Royal Commission on the

* Read at the Birmingham Branch of the British Medical Association, on March the 11th, 1909.

Care and Control of the Feeble-minded, so many important opinions and observations have become public property, that the present appears to be a suitable juncture for taking a fresh purview of the situation. In my paper at Leicester I put forward a scheme of classification of the feeble-minded, drafted on pathological lines. Further experience has shown that this is useful and sufficient, and I therefore now reproduce it, slightly modified.

Classification of Defective Children.

A. *Deviations from the normal.*

B. *Degenerative*

1. Not congenital
   - *a.* Traumatic.
   - *b.* Post-febrile.

2. Congenital
   - i. Latent at birth
     - *c.* Traumatic
     - *d.* Post-febrile
     - *e.* Eclamptic
   - ii. Dating from birth
     - *f.* Simple
     - *g.* Microcephalic
     - *h.* Macrocephalic
     - *i.* Hydrocephalic
     - *j.* Mongolian
     - *k.* Cretin
     - *l.* Syphilitic
     - *m.* Neurotic
     - etc.

   (*c*–*m*: X or Y.)

X = Insane or feeble-minded parent.
Y = Physically degenerate parent.

There are two classes: A, deviations from the normal, a term which explains itself; B, the results of degenerative changes. This second class is divided into non-congenital and congenital cases, and these are sub-divided into various types. It is scarcely necessary to say that the congenital group accounts for the great majority of cases seen.

The deviations from the normal have always been few and far between; a keener insight with extended knowledge of the factors which make for deterioration would seem to reduce this group still further, and the same applies to the non-congenital group of degenerative cases. The more scientific we become and the more we extend our knowledge, the more surely do we realise that nothing happens in this world without a reason. The production of the feeble-minded is no exception. It may not always be possible to recognise the rotten branch in the family tree, nor do we know all the agencies which make for decay, yet scientific reasoning and common sense both justify us in putting on one side Dr. Robert Hutchison's contention that the occurrence of feeble-mindedness is a "pure accident," a term which the Commission found themselves unable to interpret. The majority

of witnesses examined by the Commission were of opinion that a neuropathic inheritance is the great factor in the production of mental defect, and many of them brought forward facts in justification of their theory; a number, in a similar way, substantiated the idea that in the absence of a neuropathic inheritance the environment of the parents can and does tell; and in particular such elements as tubercle, syphilis, and excessive indulgence in alcohol. It is unfortunate that the Commission should have confounded the two issues and stated in their summing up that: "Both on the ground of fact and of theory there is the highest degree of probability that feeble-mindedness is usually spontaneous in origin—that is, not due to influences acting on the parent—and tends strongly to be inherited." Practically no one questions the latter statement, but the suggestion that feeble-mindedness is usually spontaneous is, in the opinion of many critics, not in accordance with the facts detailed; it is, at any rate, strangely discordant with the experience of those who have made a careful study of the effects of environment on the sperm and germ-cells, and on the developing embryo. A few words on the subject of "heredity" may not be inappropriate. I enter on this with some degree of trepidation after the strictures passed by the Commission on the loose and uncertain way in which, not only the lay, but also the medical witnesses, used terms in this connection. So impressed were the Commissioners with this weakness that they have suggested that heredity "forms an important part of physiology" which "should be more specially emphasised than it now is in the medical curriculum." A characteristic is not hereditary unless it is truly of an ancestral nature; to be so it must have been an inherent property through a series of generations, latent possibly in some, but still always really in existence, and always liable to crop up again. If a defective child is found to have had a father who drank to excess, owing to want of mental balance, a grandmother who was epileptic, and a great grandfather who committed suicide, we are correct in stating that there is a neuropathic inheritance. In many instances, however, in which we speak of a tubercular or alcoholic inheritance, we are using terms in their wrong sense; no doubt in many of these cases the disease or indulgence does exact its toll, and sometimes in the form of mental weakness in the next generation, but there is no true heredity here. What has happened is simply this; the sperm-cells of the father or the germ-cells of the mother have been exposed to a toxin, and have suffered in consequence; nor is this the only possible inaccuracy: in our population one in every nine dies of tuberculosis; there is

not really a history of special susceptibility to tubercle unless we know the total number of the family, and also the number of those who have been affected. When there have been, let us say, two cases of tubercular disease in previous generations, the statement has often been made that the family is phthisical; if more careful examination, however, showed that the family numbered thirty in all, and only two cases could be recorded, the correct statement of the facts would be, not that there is a family history of phthisis, but rather that the incidence of that disease in this family is below the average. The same remark applies to a history of mental illness; Professor Karl Pearson once pointed out to me that you can get a history of insanity, in the ordinary useless sense of the term, in any family, if only it is big enough. The point is always this: Is the incidence of the special condition above or below the average in the particular family? The biometricians have not yet carried everyone with them, but if they have done nothing else they have, at least, done yeoman service in the elucidation of the problems of heredity by making us accurate and precise in our statements. It is the old-fashioned slip-shod method of recording family histories that makes some say there is nothing in heredity, and leads others to suggest that anything can be proved to be due to tubercle.

In determining the origin of mental weakness one great difficulty always confronts us: the cause of the trouble is seldom, if ever, single, but usually multiple, sometimes extremely complex. When phthisis, alcoholism, and insanity, not to speak of other unfavourable elements, are rampant in a particular family, who can say what determined the amentia; often it is not due to any single one of these, but to the unfortunate combination. The truth is that anything which interferes with mental or physical health tends towards the production of amentia. When Dr. Dewey, of Chicago, inquired into the early life conditions of 200 sane and 200 insane persons he found, according to Dr. Urquhart,* that, "whatever tended to eugenics found expression in the sane in a higher degree than the insane. For instance, excessive use of alcohol, of tobacco, of tea, of coffee appears more frequently in the insane families; tuberculosis, insanity, malarial environment follow the same rule. Neglect and poverty, lack of home discipline, defective schooling, were all more apparent among the insane." The term "blastophoria" or "germ corruption" suggested by Forel for anything that may injure the germ, and so lay the foundation for inherited weakness, is a convenient means of expressing all that leads to deterioration.

* Urquhart, "Morison Lectures," 'Journal of Mental Science,' 1907.

To return, however, to the main issue—I have said that a neuropathic inheritance is the outstanding feature in the records of the feeble-minded. This was shown fifteen years ago by Dr. Shuttleworth, who, in conjuction with Dr. Fletcher Beach, tabulated a series of 2380 cases admitted either to the Royal Albert Asylum at Lancaster or to the Darenth Asylum. Their investigations have since been confirmed by Dr. Tredgold, who studied a large number of cases, and in 150 obtained full particulars of the family for at least three, and sometimes four generations; in 64·5 per cent. he found a neuropathic inheritance. A similar inheritance was found by Dr. Lapage in at least 40 per cent. of the children in the Manchester Special Schools for the Feeble-minded. In the Special Schools in this city I investigated 165 cases, and in addition was supplied with particulars of 85 more by Dr. O'Connor, making 250 in all. We found a neuropathic inheritance in 45·6 per cent. In order to substantiate the contention that such a percentage does not exist among ordinary children, Dr. O'Connor and Dr. Coghill examined a group of 100 normal school-children in the same district, and found a very different state of affairs, there being a neuropathic inheritance in only 22 per cent. These control investigations are important and interesting; we found striking differences; not only were unfavourable antecedents much less common among the normal, but an even more noteworthy feature was that among the normal one unfavourable factor usually stood by itself, while among the defective was to be noted the summation of bad influences already described. In these cases mental weakness has become inherent in the germplasm. No difficulty in accepting this explanation arises from the fact that not all who bear the taint show the stigma; the wonderful capacity of Nature for restoring the normal is universally admitted.

When we consider the groups with tubercular and alcoholic antecedents we ask how these conditions are to blame if it is not a case of heredity. Those who would make light of their effects take refuge in Weismann's dictum that acquired characteristics cannot be transmitted. They are not transmitted in the ordinary sense of the term, but Weismann himself no longer maintains the inviolability of the germ-plasm; that is a tangible entity, and must have an environment with which it must have relations. Many important studies bearing on this point have been made in recent years; for my present purpose it is sufficient to refer to Beard's* investigations as detailed in his records entitled "A Morphological Continuity of Germ-Cells as the Basis of Heredity and Variation." Here Beard has shown us

* J. Beard, 'Review of Neurology and Psychiatry,' vol. ii, 1904.

that "everything which can influence the individual and its germ-cells—food, climate, toxins, disease, natural phenomena of all sorts—will differently affect the various corresponding characters of any germ-cell." He finds no element of chance in the production of varieties, but has demonstrated that healthy influences promote variation of a good type; unfavourable ones tend towards a bad type. The same views lead Forel to say: "The more pathological and inferior components there are in the vital forces of ancestors and parents the greater is the chance of having defective, abnormal and mentally diseased children. And, on the other hand, the more ancestors and parents are composed of normal or generally superior people the more capable will be the descendants they produce."

As regards tubercular antecedents, my comparative investigation showed that they were more than twice as common among the mentally defective, 43·2 as compared with 17 per cent. among the normal. Shuttleworth, Lapage and many others tell the same tale. We are not all agreed as to the sequence of events. Many hold that tubercle lays the foundations for mental weakness; others think, with Sir James Crichton-Browne, that: "The true connection is to be found in the fact that they are both apt to fasten on a particular kind of soil, weakly and little resistant to morbific effects." Be that as it may, any crusade against consumption will help to diminish the number of the feeble-minded.

(*To be continued.*)

Editorial.

INFANTILE MORTALITY IN POOR LAW INSTITUTIONS.

In the Minority Report of the Royal Commission on the Poor Laws and Relief of Distress an account is given of a private inquiry, instituted by a member of the Commission, into the mortality statistics of the infants born during 1907 in the workhouses in England and Wales. Forms were sent out to all the unions in England and Wales, and of these a voluntary response was received from 450. The nature of these returns is so unexpected and so appalling that the greater publicity that is given to them the sooner is the state of affairs likely to be appreciated and a remedy found. We are very glad to see that the 'British Medical Journal,' in its issue of

February the 27th, has already taken notice of this grave matter. The following remarks from the Minority Report indicate the inquiries which were made: "We were, therefore, interested in the mortality statistics of the 8483 infants who were born during 1907 in the workhouses of the 450 unions responding to the inquiry made by one of our members. Out of these 8483 infants no fewer than 1050 actually died on the premises before attaining one year. The Registrar-General, as is well known, gives for the whole population the number of babies out of every 1000 born who die before the expiration of certain days, weeks and months of the first year of life. Similarly, there has been worked out for these 8483 babies born in 450 of the Poor Law institutions in England and Wales during 1907, taking only the deaths actually occurring in the institutions, the proportion dying within corresponding periods of their first year—making the assumption, for the purpose of comparison of death-rates, that those who left the workhouse within the year had a death-rate equal to those remaining in the institution."

The results of the investigation are tabulated in the following manner, and show that the mortality among the infants in the Poor Law institutions is between two and three times as great as that of all the infants born in England and Wales.

Infantile Deaths out of every 1000 *Born.*

Ages at death.	In workhouse outside London.		In London workhouse.		Experience of England and Wales, 1906 (legitimate and illegitimate).	Experience of London for 1906 (legitimate and illegitimate).
	Legitimate.	Illegitimate.	Legitimate.	Illegitimate.		
Under 1 month . .	72·6	78·2	85·5	66·7	41·9	37·0
1 to 3 months . .	72·8	85·9	57·1	116·2	25·7	24·6
3 to 6 months . .	76·8	56·4	70·9	107·6	27·0	27·3
6 to 9 months . .	30·8	28·7	48·9	72·2	20·8	21·7
9 to 12 months . .	58·7	19·4	57·2	29·3	17·1	19·3
	311·7	268·6	319·6	392·0	132·5	129·9
Number of infants on whose experience from birth the above rates are based	1479	4421	1002	1581	—	—

The report also states: "Out of every 1000 babies born in the population at large, 25 die within a week and 132 are dead by the end of the first year. For every 1000 children born in the Poor Law institutions, 40 or 45 die within a week, and, assuming the mortality among those who are discharged to be the same as those remaining, no fewer than 268 or 392 will be found to have died by the end of the year, the number varying according to whether we take the experience of the Poor Law institutions for legitimates or illegitimates, in the Metropolis or elsewhere."

These results are astounding, for it would be natural to expect that the infant mortality would be higher among the whole population than that among those in the Poor Law institutions. Among the former class the lack of medical attendance, the inadequate nursing, the ignorance and neglect of the parents and the insufficient food, warmth and housing accommodation, would naturally lead to an excess in the infant mortality, and yet this loss of life is not nearly so great as in the institutions which are looked after by local authorities who are appointed to protect the interests of the poor.

An attempt is made to compare the infant mortality in the Poor Law institutions with that in certain voluntary maternity hospitals, and the result is compressed into the following foot-note: "The proportion of infantile deaths to the births during 1907 was, in the City of London Lying-in Hospital, 20·49 per 1000; in the East End Mothers' Home 21·07 per 1000; in the Queen Charlotte's Lying-in Hospital 26·1 per 1000; and in the General Lying-in Hospital 59·3 per 1000; or, taken together, out of 3414 births, 30 per 1000—to be compared with the 46 or 53 per 1000 recorded of the Poor Law institutions as a whole. In the well-known Rotunda Hospital at Dublin, out of 2262 births in 1906 there died in hospital only 30 infants; in 1907 out of 2318 only 21 infants. The usual stay in hospital is, however, apparently only seven days, so that the extraordinary small proportion of infantile deaths—13, or 9 per 1000—must be compared with the 25 per 1000 for England and Wales, and the 40·1 to 44·9 per 1000 of the workhouses for the first week."

Statistics are also quoted with regard to the mortality among 3005 infants, all of them born in West Ham in households having incomes of not more than twenty-one shillings a week, but born

under the care of the Plaistow Maternity Charity. Only 47 of these infants died within the first fortnight, or 15·33 per 1000 births, which may be compared with the 49·5 per 1000 births in the Poor Law institutions of London, England, and Wales.

The great excess of infantile mortality in the Poor Law institutions is due to many unsatisfactory conditions, which are indicated in the following extracts from the report: "Whatever allowance should be made for the fact that the Poor Law institutions received many cases in which the mother has been exposed to adverse conditions, it is impossible to avoid the conclusion that the arrangements of the workhouse nurseries—to which Dr. Fuller so pointedly drew our attention—need serious examination." "We regret to report that these workhouse nurseries are, in a large number of cases . . . wholly unsuited to the healthy rearing of infants. It is in vain that the Local Government Board has for more than a decade laid it down that: 'In every workhouse where there are several children too young to attend school a separate nursery, dry, spacious, light, and well ventilated, should be provided. . . . In no case should the care of the young children be intrusted to infirm or weak-minded inmates . . .' We have visited many workhouse nurseries in different parts of the kingdom, and we have found hardly any that can possibly be regarded as satisfactory places in which children should be reared." "As things are, the visitor to a workhouse nursery finds it too often a place of intolerable stench, offensive to all the senses, under quite insufficient supervision, in which it would have been a miracle if the babies continued in health." "In the great palatial establishments of London and other large towns, we were shocked to discover that the infants in the nursery *seldom or never got into the open air.* We found the nursery frequently in the third or fourth story of a gigantic block, often without balconies, whence the only means of access, even to the workhouse yard, was a lengthy flight of stone steps, down which it was impossible to wheel a baby carriage of any kind. There was no staff of nurses adequate to carrying fifty or sixty infants out for an airing. In some of these workhouses it was frankly admitted that the babies never left their own quarters (and the stench that we have described), and never got into the

open air, during the whole period of their residence in the workhouse nursery."

These statements are contained in the Minority Report of the Royal Commission—and can anyone conceive a more horrible state of affairs?

Provincial Societies.

ABERDEEN MEDICO-CHIRURGICAL SOCIETY.

March the 4th, 1909.

Three cases of Congenital Dislocation of the Hip-Joint reduced by the Lorenz Method were exhibited by Dr. Rose. The ages of the patients (all girls) were 4, 6, and 13 years. In the case of the first two the reduction was easily effected, and the result, as regards position of the joint and ease in walking, all that could be desired. With regard to the third some difficulty was experienced in the reduction owing to the patient's age, and the result was not so good.

A case of Acute Bone Disease affecting the Head of the Femur was also shown by Dr. Rose, which was operated on through a front incision, and giving a good result. He emphasised the need of early diagnosis in such cases if the result was to prove satisfactory.

Mr. H. M. Gray said in cases of congenital dislocation he used the open incision, and had operated in two cases with good result after the failure of the bloodless method.

Mr. Marnoch had also operated on a case that had been twice "cured" by the Lorenz method. The head of the bone was not in the acetabulum.

A case of Osteo-myelitis of the Jaw in a Boy, aged 10 years, was exhibited by Mr. J. Scott Riddell. The patient had pain in and swelling of the jaw three weeks previously to admission into the Royal Aberdeen Infirmary on January the 27th. There was marked periosteal thickening on the right side of the lower jaw. There were numerous sinuses in the gum from which pus discharged freely; the sinuses led down to a loose sequestrum consisting of three pieces. The front portion ($1\frac{1}{4}$ in. in length, and $\frac{3}{4}$ in. in depth) of the sequestrum was removed through the mouth on February the 6th, also a portion of the ramus—2 in. in length and $\frac{1}{2}$ in. in depth—was removed on this date. A third portion, representing the condyle, about an inch in length, was removed on February the 22nd. The result is exceedingly good at the present date, the boy having a useful jaw, with good movement. There is still, however, a small piece of necrosed bone left which appears to be the old angle of the jaw.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.

February Meetings.

A Boy, aged 13 years, with a considerable Residual Birth Palsy of the Upper Arm Type, was shown by Dr. E. F. Trevelyan. There was considerable weakness of the deltoid in addition to the usual inability of carrying the arm upwards above the level of the shoulder. The arm notwithstanding was fairly useful.

A Meckel's Diverticulum removed from a Hernial Sac from an Infant, aged 3 months, was shown by Mr. H. Littlewood.

A Specimen of Pseudo-Membranous Colitis from a Child aged 4 years, who had suffered for a fortnight from whooping-cough, was shown by Dr. Maxwell Telling. The symptoms during life were very suggestive of intussusception and led to a laparotomy. Two days before admission there had been vomiting and diarrhœa, and the stools for the last twelve hours of this period had consisted of nothing but blood and slime. The child was admitted to the surgical side of the hospital, and *per rectum* a mass could be doubtfully felt which was thought to be the intussusception (? of the sigmoid); there was some prolapse of the bowel. Abdominal examination was negative. On opening the abdomen there was no abnormal condition discoverable. The child died a few hours after the operation and the colon was found to be in an intensely inflamed condition, commencing about the middle of its transverse portion and increasing in intensity towards the anus. The mucous membrane was swollen and looked as if covered with a reddish false membrane, which, however, could not be removed. No cause could be assigned for the colitis. The "mass" felt *per rectum* was undoubtedly the swollen mucosa.

An Infant, aged 18 months, in whom a large Pancreatic Cyst had been drained some months before, was shown by Dr. Maxwell Telling and Mr. J. F. Dobson. The wound was soundly healed and the child's condition in every way satisfactory.

A Child, aged 4 years, with Splenic Anæmia (Infantile) was shown by Dr. Maxwell Telling. There were marked signs of rickets. When seen a month before there was marked anæmia and cachexia; the spleen was massive, reaching to below the iliac crest; there was also considerable enlargement of the liver. The blood changes were typical. In a month the child had improved very greatly under iron and arsenic; the spleen had diminished by about one third, the anæmia, cachexia and general malaise were much less, and there had been a gain of five pounds in weight.

An Infant, aged 5 weeks, suffering from obstetric paralysis, was shown by Dr. T. Churton. The left arm was close to the side, the shoulder a little elevated, the forearm strongly pronated, the humerus a little rotated inwards and the fingers flexed. There had been rupture of the left sterno-mastoid muscle also at birth.

NORWICH MEDICO-CHIRURGICAL SOCIETY.

March Meeting.

A Case of commencing Facial Hemi-atrophy in a girl, aged 8 years, was shown by Dr. W. A. Aldred, of Wroxham. When an infant the child had two "convulsion fits," but there had never been any injury to her head either at birth or since. She is one of seven, all fairly healthy, and there is nothing noteworthy in the medical history of her parents. She was quite well until last August, when she had a severe and recurring epistaxis. About four months ago the "hole in the head" was first noticed. For the last two months she has complained of sharp neuralgic pains over the right forehead, often accompanied by sickness, and according to her mother, causing temporary dizziness. She does not otherwise fall about. No optic neuritis. No alteration in eye movements or general reflexes. During the last month or two her mental condition has undergone a change. She has become stupid at school, nervous of the dark and rather silly in manner. Over the right side of the forehead there is a fan-shaped patch of discoloured, shiny and atrophied skin, such as is seen in sclero-derma. There is no subcutaneous fat beneath it. The apex of the area is at the inner end of the eyebrow, and the base at the margin of the hair. It is sharply limited inwards at the middle line, but outwards it merges rather indefinitely into the rest of the skin. There is an irregular groove running into the hair, about half to three quarters of an inch in width, which is smooth, shiny and hairless, and its depression appears to be caused by absorption of the bone beneath. This groove runs directly backwards to the parieto-frontal suture. There is no alteration in the rest of her face, and sensation is good over the affected area.

Philadelphia Pediatric Society.

February the 9th, 1909, J. Claxton Gittings, M.D., President.

Inspiratory Dyspnœa in Infancy.

Dr. A. D. Blackader, of Montreal, Canada, read a paper, by invitation, on inspiratory dyspnœa during infancy, with special reference to congenital laryngeal stridor and so-called thymic asthma. He reported five cases of congenital stridor which had come under his observation, and called attention to the symptoms differentiating this affection from laryngo-spasm and also from the various forms of difficult or spasmodic breathing due to acute and subacute inflammatory conditions of the upper air-passages. He regarded the cause of the stridor as almost entirely mechanical and stated that in congenital laryngeal stridor we have to deal with an exaggeration of the normal infantile type of larynx due to defective developmental conditions and not

dependent upon any spasm or inco-ordination of the respiratory muscles. The stridor itself appeared to be due to the vibration of the ary-epiglottic folds, which on sudden and deep inspiration become sufficiently tense to give a high note; the character of the sound was variable and was dependent partly upon the condition of the folds themselves, partly on the amount of stenosis present, and partly on the degree to which the membranes were stretched. Of the total number of cases, including his own, in which the age is recorded, he finds that 64 per cent. occurred during the first week and 28 per cent. during the second week. The delay in appearance may be attributed either to defective observation on the part of the nurse or defective inspiratory power on the part of the infant. In one of his cases another child in the family was said to have died at the age of four months from an attack similar to the one then experienced by the infant in his charge. Refslund states that a similar condition was also present in the brother of the infant that died under his care, but Cerf in his review states that he does not know of any other instance where a possible hereditary influence manifested itself. Thomson does not consider the affection as one of serious import to life; nevertheless one sixth of the cases reported have died of affections of the respiratory system. In all cases, except the very mildest, we find distinct indications of impediment to the entrance of air manifesting itself in defective expansion of the air-cells at both bases, a condition which must predispose to acute disease, and one also which tends to retard normal growth and development.

In cases with severe suffocative attacks the possibility of a fatal obstruction must be considered by the physician. Such cases should be sent into a hospital, where any sudden emergency could be quickly met, and kept there till the danger lessens with advancing age and development.

The question of the amount of influence that an enlarged thymus may, during infancy, exert on the respiratory act in the production of dyspnœa and stridor has for a long sime interested the profession. Pathologists generally have questioned the possibility of an enlarged thymus exerting direct pressure on the trachea. A few cases, however, have been reported within the past decade where at the autopsy indications of distinct compression were found. Very recently, also, Chevalier Jackson, of Pittsburg, has given us a convincing bronchoscopic demonstration of the occasional existence of such compression, a compression which in his case was relieved by resection of the gland. Compression may occasion distinct stridor, but such stridor will differ markedly in its character from that of congenital stridor. It has been described as of an unmusical, sawing character; it is present at both expiration and inspiration, is persistent, and is uninfluenced by sleep. Careful observation will also show that movement of the larynx is much restricted. Intense dyspnœa with cyanosis often develops. Compression by enlarged bronchial glands may give rise to very similar symptoms.

Dyspnœa associated with and apparently due to hypertrophy of the thymus is occasionally met with, without any actual stridor. Two cases of such severe dyspnœa with cyanosis ending in sudden death were reported. The question of the ætiology of such cases was discussed.

Dr. J. H. Jopson said that he had long been interested in the operative treatment of respiratory obstruction in infants. One case which he had seen in the Presbyterian Hospital, with continuous stridor, recovered. He had seen another case. This patient had the classical symptoms of congenital laryngeal stridor coming on at the age of three weeks. Another child had died of congenital heart disease, but aside from this the family

history was good. The condition in this child was so acute at times, especially when she was excited or disturbed, that operation was seriously considered, and Dr. Jopson was in almost constant attendance for days. The child was finally taken to the mountains and ultimately made complete recovery. It is noteworthy that these cases often succumb to other respiratory infections. A distinct malformation of the larynx is apparently found when these cases come to autopsy. In a large group of cases, difficult to distinguish from thymic asthma, rickets or adenoids are usually present, together with some additional acute infection, as influenza. He mentioned a family of children, in all of whom laryngeal obstruction occurred at some time during infancy.

Dr. J. P. Crozer Griffith has been most interested in thymic death. He agrees with Dr. Blackader that some cases have had stenosis follow pressure of the thymus gland, with sudden death, with symptoms of laryngismus stridulus. But children with a large thymus may die of something else, even suddenly. Dr. Griffith says that status lymphaticus does not kill; the enlarged thymus is not the cause of death, but some neurosis or some cardiac action.

Dr. B. F. Royer has seen no case as young as two weeks. He saw a child of five months who had recovered from laryngo-spasm; later this child died very suddenly. Dr. Royer detailed the histories of several cases in which the exact diagnosis was obscure.

Dr. B. A. Randall said that the most germane case he had seen was that described by Dr. Jopson. In her his laryngeal mirror had given but a poor view; but it showed the enlarged varicose veins within, such as constituted the nævoid condition of the cheek and neck. On this account he advised the internal use of adrenalin, especially as a little adrenalin in the nose notably helped respiration. Laryngoscopy should be tried, although it often fails to show the parts below the narrow epiglottis, as this is the limit for palpation; for neuroses or even paralyses may occur in young children, as with the abductor paralysis seen in adults after typhoid. Severe dyspnœa must be relieved without too much delay, lest, besides carbon dioxide intoxication, clot may form in the heart or pulmonary artery with sudden death. In these cases, as in diphtheria, mercurial fumigations with calomel may aid much.

Dr. Theodore le Boutillier reported a case of laryngeal stridor in an infant, aged 5 months. He had had a laryngeal cry for some months, associated with rickets and craniotabes. The stridor was noted again at seven months, when the child died suddenly, with cyanosis, after increasing stridor.

Dr. D. J. Milton Miller spoke of an infant with laryngeal stridor who had been under his care for three months. As the child grew stronger the stridor decreased markedly. He sees very little resemblance between laryngeal stridor and thymic asthma, and they should not be confused. He does not believe that the symptoms of laryngeal stridor are due to pressure of an enlarged thymus. If they were it would be a more frequent affection, as enlarged thymus gland is very common, at least comparatively so. He believed the dyspnœa of enlarged thymus was due to the same cause as thymic death—to a toxin.

Dr. C. B. Farr said that he had seen a child, aged 8 years, in whom the thymus weighed 30 grm. and the heart 70 grm. There was general enlargement of all the lymphoid structures and slight hypostatic congestion of the lungs. Onset was sudden, with coma, convulsions, leucocytosis 45,000, hyperpyrexia, and death.

Dr. S. McC. Hamill spoke of a form of laryngeal obstructive breathing, which he had observed in association with certain infections in newly-born and young infants. He referred to it because of the statement which Dr. Jopson had made relative to the increase he had noted in the stridor of infants suffering from congenital laryngeal stridor in the occurrence of super-added infections. He believed there was little likelihood of the obstructive breathing of the type referred to being confused with the congenital laryngeal stridor, but he had observed instances in the infections of the newly-born which might very readily be confused with the so-called thymic asthma. In these cases the onset of the spasm had been acute, severe, and associated with marked cyanosis, sometimes resulting in sudden death, after these symptoms had existed for a comparatively short time. He had sometimes observed at the post-mortem examination of these cases quite marked enlargement of the thymus gland, but in no instance was there evidence of the gland producing sufficient pressure to account for the symptoms. That they were not dependent upon the presence of an enlarged thymus he had demonstrated by frequent autopsies in cases in which there was no enlargement of the thymus. In one very striking case of streptococcic infection in a newly-born child, he had observed the complete cessation of the obstructive breathing and the disappearance of the cyanosis during the process of removal of 2 c.c. of blood for purposes of bacteriological study. This made it evident that there was no association between the presence of an enlarged thymus and these obstructive manifestations. On the contrary, these facts point to an infectious origin. But he was unable satisfactorily to explain the manner in which such infections brought about these results. He referred to the case of a marasmic infant which he had observed within the past two days, which, after having remained in a stationary condition for some weeks, suddenly developed what seemed to be obstructive breathing, associated with a certain amount of stridor, but without cyanosis, and associated with a very marked drop in the temperature; and thereafter a marked fluctuation of the temperature occurred between the normal point and 95° F. The obstructive breathing persisted until the time of death, which occurred suddenly; but the autopsy showed nothing to account for the peculiar type of breathing. Cultures from the heart blood, however, yielded a pure growth of a staphylococcus. This emphasises still further the fact that these manifestations may depend upon infectious conditions which are not associated with a rise in temperature, and without symptoms that would throw any light upon the nature of the condition. He thought further that these cases suggested the possibility of an infectious or toxic origin of thymic asthma.

Dr. R. S. McCombs reported a case in a child convalescing from typhoid fever at the Children's Hospital who developed a sudden attack of laryngeal obstruction accompanied by cyanosis and symptoms of asphyxia. He intubated, the tube remaining in position for three days; when it was removed there was no reappearance of symptoms. A curious accident occurred during intubation, the obturator holding the intubation tube in position being found missing after intubation. The child did not pass it in the stools, it was not in the bed-clothing, nor was it ever found. Dr. McCombs thought it possible that the obturator had slipped through the tube into the trachea.

Dr. W. M. L. Coplin said that the weight of the thymus gland does not show its possible pressure. The shape of the gland may show compression on the trachea. The gland also differs, whether it is distended or not.

Dr. C. E. de M. Sajous called attention to a cause of laryngeal obstruction in adults, a swelling of the tissues on the under side of the larynx, thus causing the laryngeal aperture to become narrowed. This is sufficient at times to require tracheotomy, as in a case reported by Lecoarret in 1894. The subglottic region being prone to hyperæmia and œdematous infiltration in adults, especially during the use of the iodides, it must be the seat of corresponding disorders in children. This cause of asphyxia may have prevailed in some of the fatal cases referred to this evening.

Dr. Blackader, in closing the discussion, called attention to the fact that in pure congenital stridor there was little or no spasm, a condition which differentiated it from laryngismus stridulus. He admitted that those cases of sudden death in which an enlarged thymus had been found without other detectable pathological condition might eventually prove to be cases of general infection.

Abstracts from Current Literature.

Medicine.

The appendix in scarlet fever (*'Thèses de Paris,'* 1907–1908, *No.* 149). —**R. Kauffman.**—Autopsies show that the appendix presents constant lesions in scarlet fever which are due to the affinity of the scarlatinal poison for lymphoid tissue. Macroscopically the lesions consist in a vascularisation of the appendix and enlarged glands in its mesentery, and microscopically in intense folliculitis and periadenitis. Clinically, the manifestations are often very slight, but can sometimes be found by a methodical examination of the abdomen. Kauffmann suggests that the vomiting which is a constant symptom of the onset of scarlet fever is due to a lesion of the appendix, and that many cases of malignant scarlet fever are really cases in which scarlet fever is complicated by an unrecognised appendicitis. Typical appendicitis may occur during the febrile period or during desquamation. Many cases of family appendicitis are probably post-scarlatinal. The thesis contains thirty-one cases, of which eighteen have hitherto been unpublished.

J. D. Rolleston.

Chronic appendicitis in children (*'Bull. et mém. de la Soc. méd. des Hôp. de Paris,'* 1908, *p.* 845).—**J. Comby.**—Appendicitis is very rare in infancy, but becomes more and more frequent as the child grows older, and is common after five years. It is essentially a chronic disease in which the acute form is only an episode. The ætiology is often obscure. Fine, well-nourished children, without any previous digestive troubles, are suddenly seized with appendicitis. Heredity, family predisposition, lymphatism, and arthritism are incriminated in such cases. In others there may be adenoids, tonsillitis, otitis media, cervical adenitis, gastro-enteritis or muco-membranous entero-colitis. Among infectious diseases influenza plays an important *rôle* in the ætiology. Typhoid fever comes next and then scarlet fever, measles, mumps, varicella and, generally speaking, all the specific or non-specific infections which in the child more than in the adult cause an over-growth of the lymphoid tissue. The symptoms are variable and complex. Cyclical or periodic vomiting with or without acetonuria in most cases is a

symptom of chronic appendicitis. The prognosis should be guarded. It is impossible to count on a spontaneous cure. Surgical intervention is required in most cases. The paper ends with a brief summary of 105 instructive cases. J. D. Rolleston.

Lobar pneumonia in young children (*'Thèses de Paris,'* 1907–1908, *No.* 307).—**J. Lorne.**—This thesis contains the histories of seventeen cases of lobar pneumonia in children, whose ages ranged from $7\frac{1}{2}$ months to $2\frac{1}{2}$ years, including two personal cases from Marfan's clinique at the Hôpital des Enfants Malades. Lorne arrives at the following conclusions: Lobar pneumonia in young children was once considered very frequent, but later its existence was denied. At present authorities are agreed that it exists, but regard it as rare before the age of two years. The temperature curve is the best guide during life to the diagnosis of lobar pneumonia in young children. Lobar pneumonia in a young child presents almost the same characters as in an adult, but is distinguished by the absence of pain in the side and initial shivering, by the intensity of the digestive and nervous disturbances, and most of all by the late appearance of the physical signs. The prognosis is good. Complications are rare. The most frequent are meningitis, empyema and purulent pericarditis. The diagnosis must be made from pseudo-lobar broncho-pneumonia, pleurisy, meningitis and scarlet fever.
J. D. Rolleston.

Hereditary syphilis of paternal origin (*'Thèses de Paris,'* 1907–1908, *No.* 427).—**Monnier.**—Most syphilographers and pædiatrists regard transmission to the child of a purely paternal syphilis as a rarity, and some even deny its existence. The present thesis, which is inspired by Professor Pinard and is based on 95 observations of hereditary syphilis at the Baudelocque Clinique at Paris, purports to be a refutation of the prevailing doctrine. In only eight of the 95 cases was the mother syphilitic. In two both parents were syphilitic, and in 85 the father alone was affected. Though granting that syphilis may have been overlooked in some of the women, Monnier regards it as inadmissible that its presence should have escaped notice in 85 cases. In many of the cases the women had given birth to a series of healthy children and then to a series of abortions and dead and macerated children with a typically syphilitic placenta. On inquiry it was found that there was a different father for the second series.
J. D. Rolleston.

Morphia in laryngeal diphtheria (*'Tribune Médicale,'* 1908, *p.* 213).—**A. Lesage** and **M. Cléret** think that the use of morphia in infants and older children is far from being so harmful as it is said to be, and that many of the fatalities imputed to morphia were due to opium and its preparations. In laryngeal diphtheria the attacks of suffocation are due as much to spasm as to the mechanical obstruction caused by the presence of membrane. Children with threatening asphyxia are given a hypodermic injection of 1 in 100 solution of hydrochloride of morphia in doses of $\frac{1}{4}$, $\frac{1}{3}$ or $\frac{1}{2}$ c.c. according to their age. A few minutes later antitoxin is injected. In the great majority of cases the child goes to sleep at once for five to six hours, during which time the serum acts, and on awakening the child is almost well. In a few cases morphia does not produce immediate relief and intubation is required. Morphia is nevertheless given, for it reduces the length of stay of the intubation tube. The chance of serious laryngeal

injuries is thus diminished. **E. Ausset** (*'La Pédiâtrie pratique,'* 1908, *p.* 109) testifies to the value of this treatment by recording two cases, one of simple laryngitis and the other of diphtheritic laryngitis following measles, in which the injection of morphia rendered intubation unnecessary.

J. D. Rolleston.

Pleurisy in scarlet fever (*'Thèses de Paris,'* 1907-1908, *No.* 340).—**L. Rogery.**—Pleurisy in scarlet fever is relatively uncommon. Its frequency is greater in some epidemics than in others. It may occur at any period of the disease, but is most frequent during desquamation. It is rarely primary, but is most frequently secondary to otitis, rheumatism or bronchopneumonia. The effusion may be sero-fibrinous, but is much more frequently purulent. The *Streptococcus pyogenes* seems to be the only pathogenic agent. The onset of sero-fibrinous pleurisy in scarlet fever is insidious, but later the infusion increases rapidly. The prognosis is almost always good. Empyema on the other hand is associated with symptoms of pyæmia from the start. The prognosis should be most guarded. The treatment of scarlatinal pleurisy does not differ from that of other pleurisies. The thesis contains the histories of twenty-one cases, seven of which hitherto unpublished are from Richardière's scarlet fever block at the Hôpital des Enfants Malades.

J. D. Rolleston.

Treatment of diphtheria (*'Wien. klin. Woch.,'* 1908, *pp.* 1046 and 1095).—**D. Pospischill,** in dealing with late or malignant cases, advocates the use of large doses of serum (30,000 to 40,000 units), its local injection, *i. e.* at the angles of the jaw, and the free use of adrenalin, both subcutaneously in association with normal saline solution and by mouth. Though adrenalin does not have the curative effect of antitoxin, it helps to tide the patient over the critical period. In some cases he employed adrenalin continuously for weeks, and in others renewed it frequently during attacks of cardiac failure. Occasionally abscess formation occurred at the site of the adrenalin injection, but glycosuria was never observed. To save the heart unnecessary strain Pospischill recommends morphia for the restlessness characteristic of toxæmic cases, and also in descending croup where tracheotomy has failed to give relief. In such cases life is prolonged, and may sometimes even be saved.

J. D. Rolleston.

The infant's cry (*'La Clin. Infant.,' July,* 1908, *p.* 440).—**M. Carriére** has made an interesting study of this subject. The cry may be physiological, as the cry at birth and the cry of hunger. The starved infant makes little urine and is constipated. Cries of pain are specially due to dentition. Some children are naturally criers, but this diagnosis must not be made until all physiological and pathological causes have been eliminated. Erythema of the buttocks causes a child to cry until the parts have been cleansed and soothed. Search should be made for abscesses, suppuration of the cord, mastitis, etc. The bones and joints should not be overlooked. as seats of pain and torticollis should not be forgotten. If crying occurs on feeding examine the mouth and throat. The most frequent cause of crying is to be found in gastro-intestinal disturbances. The cry of dyspepsia occurs in paroxysms and ceases after expulsion of flatus; that of hyperchlorhydria occurs after feeding and ceases two hours later, and is calmed by bicarbonate of soda; that of hypochlorhydria occurs later at the end of digestion and continues during the night after the last feed; it is made

worse by giving more milk and calmed by weak hydrochloric lemonade. Dilatation of the stomach is painful and only calmed by copious vomiting. In dyspepsia due to excess of Lab-ferment the pain is continuous, occupies the whole period of digestion, and commences immediately after feeding. If the stomach is not at fault look to the intestine and for worms, not forgetting simple colic, which is calmed by one or two drops of belladonna, nor overlooking the possibility of strangulated hernia. In relation to micturition look for phimosis, erosions of the vulva, small uric acid or phosphatic calculi. Vesical spasm and renal colic are not rare. Pain in the ear is worse when the infant is laid down and when the head is moved; a few drops of 1 in 10 warm carbolised oil, or 1 in 100 cocainised oil, give relief. The cry of pleurisy accompanies cough; that of peritonitis is exaggerated by respiratory movements, defæcation or exertion; the cry of meningitis and hydrocephalus has special characteristics. Lastly, certain cries, periodic and nocturnal, are symptomatic of malaria, Pott's disease, and night terrors.

VINCENT DICKINSON.

The interpretation and prognosis of periodic vomiting in childhood (*'La Pediatria,' June*, 1908, *p.* 448).—Those who are interested in this subject will find at the end of **O. Cozzolino's** suggestive paper one of the fullest bibliographies hitherto published. From his personal investigations and reported cases the author arrives at the following conclusions: (1) Attacks of periodic vomiting, even when they seem to constitute the whole illness, form a syndrome the cause of which must be sought for in each individual case. (2) In the majority of cases it seems well established that a neuro-arthritic diathesis represents a predisposing factor of indisputable importance as shown by its occurrence in families, but considering the enormous frequency of such an hereditary diathesis compared to the marked rarity of cases of periodic vomiting, there must be some exciting cause such as a gastro-intestinal auto-intoxication in the widest sense of the term. (3) There are sufficient reasons, *i. e.* the analogy of exciting factors, the existence of old cases of periodic vomiting, or of single attacks, the periodic type sometimes observed in the vomiting of peritonitis, appendicitis, acute infections, etc., to justify the hypothesis that it is not opportune to differentiate in a hard and fast manner these periodic vomitings from ordinary vomitings such as occur for instance in acute indigestion. Neither the intensity, long duration, periodicity, nor accompanying acetonæmia can be held as constituting fundamental characteristics of differentiation. (4) The conception of a gastric neurosis is intimately connected with intestinal auto-intoxication in explaining the phenomena which give so characteristic a stamp to this kind of vomiting, and this conception finds an adequate substratum in disturbances of metabolism in relation with the arthritic diathesis. (5) The termination of such periodic vomiting, usually favourable notwithstanding the urgency of the vomiting, may sometimes be fatal during the attack itself. In all the cases in which there was an autopsy marked lesions of the digestive track and fatty degeneration of the liver were found. (6) The morbid appearances, and also the acetonæmia, lend support to the auto-toxic gastro-intestinal origin of cases of periodic vomiting. A full clinical report of three cases is given.

VINCENT DICKINSON.

A new disease: arrested development of the scaphoid in children (*'La Presse Médicale,' October* 3, 1908, *No.* 80, *p.* 634).—**Romme** draws attention to a memoir just published by Alban Köhler ('Münch. med.

Wochenschr.,' 1908, No. 37, p. 1923), and gives radiographs of three boys affected in this way between the ages of five and nine years. The disease had lasted for six weeks, and consisted of pain in the dorsum of the foot in the situation of the scaphoid. In one boy it occurred in both feet and also in the knees in the patellar region, and was present not only during the day on walking or standing but also at night when the child was in bed. Examination of the foot showed nothing abnormal except that pressure over the scaphoid caused intense pain. There was no sign of rickets and the children were well developed. In all three radioscopy showed a lesion of the scaphoid, the bone, on comparing with the healthy side, being singularly small, twice to four times as small as normal. Its outline was irregular, the cortical and cancellous layers were indistinguishable, and the whole bone seemed dark as if laden with lime salts. The same condition existed in the patella. A system of rest from severe exertion effected a cure. The disease seems to consist of a transitory arrest of development of the scaphoid and patella, but the reason why these bones alone should be affected is obscure.

VINCENT DICKINSON.

Observations on 325 cases of scarlet fever (' *Montreal Med. Journ.*,' *September*, 1908).—**McCrae** reports out of a series of cases that the age incidence was as has been previously reported, only three occurring in the first year of life, and the largest number were between three and four, viz. 10 per cent. The death-rate was 7 per cent. In one case a relapse occurred on the thirty-first day; in this the symptoms of the first and second attack were well marked and unmistakable. The symptoms appeared in the following percentages: sore throat 81, headache 54, nausea and vomiting 54, and all three together in 25 per cent. The face showed no rash in the majority of cases. In six the rash was hæmorrhagic, and three of these patients died. The throat was reddened diffusely in 80 per cent., and 20 per cent. showed membrane or fibrin in addition, and in six of these diphtheria was actually present, leaving 17 per cent. of all the cases in which membrane, not diphtheritic, was present. The strawberry tongue with its enlarged papillæ on the tip and edges is one of the most trustworthy signs. Glandular enlargement seems a weak diagnostic point; there was a general enlargement in 73 per cent., and of the cervical group only in 21 per cent. The fever exceeded 105° F. in 6 per cent. only, but of these seventeen cases ten died. Of the complications otitis media occurred in 25·5 per cent., generally appearing during the first or second weeks. There was a suppurative discharge in 17·5 per cent; 21 per cent. had adenitis, 10 per cent. rhinitis. Erosion of the tonsillar artery proved fatal in one case. Myocardial degeneration seems fairly frequent, more common than endocarditis. A multiple arthritis occurred in 5 per cent., affecting mostly the larger joints. Albuminuria occurred in only 18 per cent. (fifty-six cases), blood in the urine thirty-nine times, and casts twenty-one times. Out of these only eight cases can be said to have definite nephritis. Four times a fleeting puffiness of the face was noted without albuminuria or other sign of nephritis. All cases were kept in bed on a milk diet for three weeks from the onset of the disease.

J. PORTER PARKINSON.

Treatment of cerebro-spinal meningitis by Flexner's serum (' *Montreal Med. Journ.*,' *September*, 1908).—**Finley** and **White** review the reports of previous observers, showing how the mortality from this disease has been lowered from 70 or 80 per cent. to about 30 per cent. by the intra-

spinal injection of Flexner's serum. They report five cases, of which four made an excellent recovery; in them the improvement was rapid, the temperature and pulse falling, and the other symptoms lessening in severity. The bacteria in the cerebro-spinal fluid rapidly lessened after the injections, and in four cases were never found after the first dose of serum. The leucocyte count showed a remarkable fall after the injections, often falling from 14,000 to 6000 on the day following the injection. The fluid is warmed and injected at the rate of 2 c.c. a minute under general anæsthesia, 10 c.c. being injected daily for three or four days. In the successful cases the treatment was begun on or before the third day, but in the fatal one on the fifth day.

J. Porter Parkinson.

Effects of faulty eye, ear, nose and throat conditions upon the mental development of school-children (*'South Calif. Pract.,' September*, 1908).—**True** believes that many a boy who gets on indifferently at school, getting a reputation for dulness or indolence, is prevented from going forward by imperfect vision, and its attendant evils, headache, vertigo, inflammation of the eyelids, etc. Defective hearing is a great barrier between the teacher's efforts and the child's receptiveness, and is the cause of much apparent inattention and stupidity on the part of the pupil. Through the nose and throat headache and difficulty of breathing induce to inattention and lack of mental application. In the examination of over 5000 school-children, 61 per cent. had defective eyesight, 22 per cent. were defective in hearing, 31 per cent. had adenoids, and 25 per cent. enlarged tonsils. Out of fifty dull children forty-three had some easily recognisable defect of these organs.

J. Porter Parkinson.

Chloroma of skull (*'St. Bartholomew's Hosp. Reports,' vol.* xliii, edited by **H. Morley Fletcher** and **W. McAdam Eccles**).—A girl, aged 4 years, was admitted with a tumour of the skull and protrusion of the eyeballs. The post-mortem showed a multiple olive-green neoplasm in the bones of the skull, around the orbits, especially the right orbit, invading the sphenoidal fossa and antra of Highmore. The submaxillary lymphatic glands were enlarged and infiltrated with green-coloured growth.

James E. H. Sawyer (Birmingham).

Cirrhosis of the liver in a boy, aged 9 years (*'Glasgow Med. Journ.,' February*, 1908).—**Walter K. Hunter.**—Boy, aged 9 years, who appeared healthy until nine months before his admission into the Glasgow Royal Infirmary in October, 1906. During that time he showed signs of listlessness and disinclination for any sort of physical effort, with loss of appetite and occasional attacks of vomiting. He had had whooping-cough at two years, scarlet fever at three and a half, and measles immediately afterwards. Child fairly well developed, but slightly jaundiced. The lower edge of the liver extended from the tip of the ninth right rib to that of the eighth left rib; it extended to two inches above the umbilicus. The spleen extended one inch below the left costal margin. The superficial abdominal veins were not enlarged, and there was no ascites. Mostly every day while in hospital there was some slight bleeding from the nose, and twice there was fairly abundant epistaxis. In August, 1907, the abdomen was larger, the superficial veins enlarged, and a considerable amount of ascites was present. The liver seemed to be about the same size. The ascites disappeared under treatment. In October there was a pneumonic consolidation of the lower

lobe of the right lung, and an empyema developed. He died two days after the operation for the empyema. The liver weighed 30 oz., and was about normal in size. Its shape was altered, the left lobe being distinctly larger than the right. The surface was definitely nodular, and the cut surface pale and of a yellowish colour. The spleen was much enlarged. Microscopical examination of the liver showed the condition to be one of very advanced multilobular cirrhosis. There was no definite fibrosis of the spleen.

JAMES E. H. SAWYER (Birmingham).

Hypogenetic nephritis (*'Romîn. Med.,' No.* 12, 1908).—**Mironescu** draws attention to a form of nephritis which appears to be due to a defective embryonal development of the kidneys. von Babesch and others have given to this form of nephritis the name "hypogenetic nephritis" on account of the fact that there is evidence not only of defective development of the glomeruli and blood-vessels, but also of the entire organ. Clinically, hypogenetic nephritis has usually a sudden onset, and is apparently caused by some mild infection. The heart rapidly hypertrophies and death frequently occurs from uræmia. At the necropsy the kidneys are found to be smaller than normal and present fœtal lobulation. The pyramids are small and diminished in number. Around the blood-vessels flat muscle-fibres are found, and there is a general increase of connective tissue in which mononuclear cells and fibroblasts of an embryonic character predominate. The condition is a rare one, but should be suspected in cases of chronic interstitial nephritis occurring in early life. T. R. WHIPHAM.

Tubercular peritonitis (*'Johns Hopkins' Hosp. Bull.,' September*, 1908).—**Hamman** gives an analysis of 150 cases of tubercular peritonitis which occurred at the Johns Hopkins' Hospital. On thirty-five cases a necropsy was made, and the following facts were established: (1) The great rarity of even apparently primary peritoneal tuberculosis, only one such case being found; (2) the great frequency with which more than one serous membrane is affected. In 29 out of the 35 cases there was, in addition to the peritonitis, pleuritis or pericarditis, or both. Of the cases that were discharged 43 were traced, and of these 14 had died, 7 were living but in bad health, and 22 were reported to be well. The statistics thus show that tubercular peritonitis is a very fatal disease. Of 103 cases that were either operated upon or examined post mortem, 35 were of the ascitic type, 63 of the fibrous, and 5 of the suppurative. In 70 per cent. of all the cases the leucocyte count was under 10,000, but a distinct leucocytosis was found in those that developed complications. Albumin was present in the urine in a majority of the cases, and in a few the diazo reaction was obtained. T. R. WHIPHAM.

A case of primary nasal diphtheria in a suckling (*'Wien. klin. Rundschau,' June* 21, 1908).—**Schwarz** observes that the true nature of nasal diphtheria may be often overlooked at first, because, with nothing clinically to distinguish it from acute cold, there may be a negative bacteriological examination as occurred in the following case. An infant, aged 6 months, fell ill on December 1; it was somewhat restless and not taking its food. Temperature 37°, pulse 120, somewhat apathetic; nasal catarrh of moderate intensity with muco-pus secretion; breathing rather frequent with mouth open. There were no other signs. Bacteriological examination showed diplococci but no diphtheria bacilli. From December 2 to 10 condition changed only inasmuch as the secretion became more profuse; there was no

blood on examination. On the tenth day of illness the fauces and uvula were attacked. The Loeffler bacillus was now found to be present. Injections of serum were made, and the child was entirely well within a month of the attack. M. D. Eder.

Urinary affection in infants (*'Intercol. Med. Journal of Aust.,' June* 20, 1908).—**Stephens** recommends in all obscure febrile cases in babies, especially baby girls, the passage of a soft rubber catheter and the examination of the urine chemically, microscopically and bacteriologically. He cites two recent cases in support of this. Case 1: A girl, aged 12 months, with fever but with no other physical signs whatever. The urine drawn off contained a small amount of albumin and some pus cells; bacilli in great numbers belonging to typho-colon group. The urine became normal in nine weeks. Case 2: A girl, aged 8 months, became febrile, languid, and vomited; there was some enlargement of the spleen but no other signs. The urine was found to contain motile bacilli belonging to the colon group. The child was well in a fortnight. He believes that in these cases the infection is an ascending one, and therefore directs special importance to the frequent cleansing and changing of diapers as the most potent means of prevention. M. D. Eder.

Sudden death in an apparently healthy nursling (*'Monatschr. f. Kinderheilk.,'* vii, 6).—**Kaeszmann** reports a case of sudden death of a healthy nursling, in which the autopsy showed no cause for death; there was found no hyperplasia of the thymus or tendency to spasm. The only noticeable feature in the case was a peculiar vaso-motor neurosis in the mother (an erysipelatous erythema at the time of the menses) which perhaps indicated a vaso-motor abnormality. J. E. Bullock.

Ætiology of impetigo contagiosa (*'Arch. f. Hyg.,' Bd.* 67, *H.* 4).—**Nako Abe** (Japan), in a small epidemic of this skin affection, describes a micrococcus which resembles the *Micrococcus aureus* and *albus*, and which produced typical impetigo pustules on the human skin. He considers this micrococcus the cause of the affection. J. E. Bullock.

Notes on a scarlet fever epidemic in an institution for epileptics (*'Correspondenzbl. f. Schweizer Aerzte,' M.* 6, 1908).—The interest of this epidemic, reported by **Maeder,** lay in the occurrence of abortive cases with high fever, which were undoubtedly infectious, absence of angina, and an unusually localised eruption of short duration, in conjunction with cases of pronounced scarlet fever. The period of incubation was three to four days, and the illness was contagious in all stages. J. E. Bullock.

Pathology.

A modification of the tuberculin skin-reaction (*'La Pediat.,' September,* 1908, *No.* 9, *p.* 641).—**V. Tedeschi** and **C. Lorenzi** describe the method of their auricular reaction. They state that the ophthalmic reaction is subject to the following errors and inconveniences: (1) Spasm of the orbicularis palpebrarum, which expels the drops as soon as they are instilled unless special care is taken to hold the eyelid open for some moments; (2) crying, which dilutes and washes away the instilled material;

(3) difficulty in estimating sluggish and delayed reaction; (4) the presence of the reaction in typhus and syphilis; (5) reaction on the part of those already suffering from eye disease, such as conjunctivitis, keratitis, and blepharitis. The authors use a small syringe of 1 c.c. capacity and of finer calibre than an ordinary Pravaz, and filled with an aqueous 5 per cent. solution of tuberculin. The helix of the child's ear is washed with alcohol and ether, and when the resulting hyperæmia has passed off the helix is straightened out with the thumb and forefinger, and a certain quantity of the fluid injected under the skin between it and the cartilage. The authors claim for their method that all the errors and dangers of the ophthalmic reaction are removed and there are no pathological conditions which can interfere with the test; that it has the advantage of eliminating doubts relative to scarification; it is safer than the methods of Pirquet, Lautier, and Hamburgher; the quantity of tuberculin used, being dosimetric, constitutes a detail for the study of the reaction in relation to the weight and age of the subject and to the cutaneous susceptibility; the great practical advantage of being able to estimate with precision, owing to the anatomical structure of the chosen area, the subcutaneous swelling, which it is difficult to do in other dermo-reactions; the reaction is in every way more definite and is a new and striking phenomenon, due not only to the tuberculin but also to the special anatomical conditions of the helix of the ear.

VINCENT DICKINSON.

Bacteriological researches in measles (*'Jahrb. f. Kinderheilk.,' Bd.* 68, *H.* 4).—**Pacchioni** and **Francioni** have applied themselves to the much-studied question of the ætiology of measles; their researches have, however, met with no decided result. The *Bacillus hæmophilus* found in the nasal and conjunctival secretions and in the blood they could only consider an occasional result. Probably in the light of Wright's opsonic theory the phagocytic possibility of the *Bacillus hæmophilus* was intensified in measles. The authors think that the ætiology of measles is connected with the antibodies in the subsidence of the disease rather than with any definite bacillus.

J. E. BULLOCK.

Icterus gravis in the new-born (*'Münch. med. Wochens.,' No.* 42–43, 1908).—**Pfannenstiel.**—In some families there occurs a fatal form of severe icterus in the new-born. The condition shows itself in early occurring intense jaundice, in the tendency to serous transudation and to catarrh of the mucous membranes, followed by cutaneous hæmorrhages and swelling of the spleen. There is no evidence of syphilitic or septic infection. The author comes to the conclusion, as the result of his investigations, that this form of icterus is an exacerbation of physiological icterus. A collection of mild transitional cases was exhibited. The treatment, he states, must be directed to the destruction of the toxins by salt injections and stimulants.

J. E. BULLOCK.

Primary acute streptococcic peritonitis and its relation to angina tonsillaris (*'Pathological Institute of the Helsingfors University'*).—**de la Chapelle** considers that the result of numerous observations points to the direct connection of apparently primary peritonitis with angina tonsillaris; that the cause of this peritonitis is the *Streptococcus pyogenes*, and that infection of the peritoneum follows probably through the vascular system.

J. E. BULLOCK.

The cerebrum in infants with hereditary syphilis (*'Jahrb. f. Kinderheilk.,' Bd.* 68).—**Neyl** states that in six syphilitic infants dying in the first year of life, and examined by him, there was found a constant change in the cerebral cortex in the form of cell-infiltration and thickening of the pia mater, and a localised encephalitis of the cortex. When also in these cases, cerebral symptoms were intermixed along with other evidences of hereditary syphilis, a similar affection of the cerebrum was always found.

J. E. Bullock.

The Spirochæta pallida in the appendix (*'Ann. de Mal. Vénér.,'* 1908, *p.* 38).—**Fouquet,** whilst investigating the localisation of the *Spirochæta pallida* in congenital syphilis, found numerous spirochætes in the mucous and muscular coats of the appendix of a seven months fœtus. Numerous spirochætes were present in the other viscera also. The appendix showed no macroscopical nor histological lesion. This observation is of interest in that it confirms the opinion expressed by Prof. Gaucher in 1904, that syphilis, and especially congenital syphilis, is a common cause of appendicitis.

J. D. Rolleston.

Leucocytosis and iodophilia in scarlet fever.—(*'Gazz. degli Osp.,'* 1908, *p.* 433).—**A. Magi.**—During the invasion stage of scarlet fever there is a moderate leucocytosis, which reaches its maximum intensity during the eruptive period, and gradually declines to normal in convalescence. In complications such as necrotic angina, purulent otitis or suppurative adenitis the leucocytosis is high. The leucocytosis of scarlet fever is characterised by an excess of the polymorphonuclears. In most of Magi's cases the eosinophiles showed a moderate increase during the eruptive period, returning to normal in convalescence. The large mononuclears showed no change worth mentioning. The number of the red cells and the quantity of hæmoglobin during the course of the disease showed a slight but constant diminution. The iodophilic reaction was present in Magi's cases, and was closely associated with leucocytosis. Like the latter it showed its greatest intensity during the eruptive period, and diminished and entirely disappeared in convalescence, unless complications supervened. Owing to the constancy of its presence at the onset, its disappearance in convalescence, and its persistence on the supervention of complications, Magi thinks that the iodophilic reaction is of great diagnostic and prognostic value in scarlet fever.

J. D. Rolleston.

Therapeutics.

Inunction method of administering drugs to children (*'Amer. Journ. of the Med. Sciences,' January,* 1909).—**B. K. Rachford,** in the course of an interesting paper on the value of the inunction method of administering drugs to children, expresses the opinion that inunctions are very much more efficacious for the treatment of disease in young children than they are in adults, for the following reasons: (1) In infants the surface of the skin in proportion to the body-weight is four times greater than it is in adults. This brings the whole blood and lymph circulation of the infant in close communication with the blood-vessels and lymphatics of the skin, and makes it possible for drugs which are rubbed into the skin to pass quickly through the body and make their appearance in the urine, fæces, bronchial mucus, and other excretions. (2) In infants the vaso-motor mechanism is much

more responsive to reflex stimuli than it is in adults, and for this reason the capillary circulation in the skin of the infant is made much more active by the application of heat and friction, as in the giving of inunctions. This facilitates the absorption of the inunction and the ready introduction of medicines into the general circulation. (3) All lymphatic structures are functionally more active in the young child than in the adult, and the lymphatic circulation in the skin and in other parts of the body is relatively more active and functionally more important than it is in the adult. This facilitates the absorption of inunctions and makes possible the ready introduction of medicines through the skin into the lymphatic circulation. (4) In young children, and especially in infants, the nutritional problems in the treatment of all diseases are of vastly greater importance than they are in the adult, and it is, therefore, of the utmost importance that the stomach and intestinal canal should be kept in the best possible condition; consequently all drugs that can be advantageously administered in some other manner should be kept out of the stomach. This is especially true of drugs that are intended to influence general metabolism and to act upon diseased tissues remote from the gastro-intestinal canal. (5) The diseases which can be most readily reached by inunctions, such as diseases of the lymphatic structures and of the respiratory passages, are much more common and much more severe in young children than they are in adults, which facts very much enhance the relative importance of the inunction treatment in young children. (6) Experiments demonstrate that certain medicines may be introduced with great facility, by inunction through the skin, into the circulating media of the body, and that this result is more readily accomplished in infants and young children than it is in adults. He describes the technique he follows in the exhibition of drugs by this method, and he gives his experience with guaiacol, iodine, oil of wintergreen, salicylic acid, etc.

J. Allan (Edinburgh).

Treatment of common warts by local injection of tincture of thuya (*'La Clin. Infant.,' November*, 1908, *No.* 21, *p.* 670).—**J. A. Sicard** and **P. Larne** state that this method gives constant results. The patient is given a hot bath locally, sufficiently prolonged to soften the warty regions; then with antiseptic precautions, by means of a Pravaz syringe with a fine short needle, a few drops of the tincture are injected below the papillary layer of each wart. During the following days the warty mass becomes dark brown, withers and falls off, small ones in about a week, while very large ones require repeated injections from two to six times at five or six days' interval. After this operation, which is almost painless or may be made so by previous injections of coca-stovain, a dry dressing is applied.

Vincent Dickinson

Treatment of pertussis with the abdominal binder (*'Therapeutic Gazette,'* 1908, *p.* 615).—**P. B. Cassidy**, following Kilmer's method of treating whooping-cough with the abdominal binder ('Journ. Amer. Med. Assoc.,' 1907, p. 1750), found that the duration of the disease was shortened, the vomiting checked, and the number and severity of the attacks reduced thereby. Twelve illustrative cases are recorded. J. D. Rolleston.

Chloroform in whooping-cough (*'Bull. de la Soc. de Méd. de Rouen,'* 1907, *p.* 55).—**Derocque.**—A child, aged 2½ years, suffering from whooping-cough, was operated on for acute mastoiditis. After the chloroform the

paroxysms almost completely disappeared, and the vomiting, which had been very frequent before, did not recur, though the case was followed for more than six weeks. In the subsequent discussion **Calmette** stated that he had given inhalations of chloroform, without producing complete narcosis, to two children suffering from whooping-cough. After five or six *séances* the paroxysms were decidedly less, but the treatment had to be abandoned on account of repeated vomiting. Five days later the paroxysms resumed their previous violence, and the disease pursued its usual course.

J. D. Rolleston.

The treatment of pharyngeal catarrh in children (*'Therapeut. Monatshefte,' August,* 1908).—**Hecht** treats the distressing, irritating cough ushering in measles and due to pharyngeal catarrh by the injection of a 5 per cent. solution of zinc soziodol into the nose, at first every three hours, and later three times a day, the head being well thrown back. He thus dispenses with the usual sedatives, and especially avoids codeia.

J. E. Bullock.

Ophthalmology.

Ætiology of interstitial keratitis (*'Ophthal. Record,' July,* 1908).—**Risley,** in dealing with this subject, states that there are certain cases of this disease which cannot be attributed to congenital syphilis. To them derangement of nutrition must be assigned as a cause. The author reports two cases of severe interstitial keratitis in which there was no history or other sign of syphilis. The general condition of the patient was similar to that of myxœdema in that there was general torpor of mind and body; the lips were thick, the tongue swollen, and the fingers clubbed; the skin was of an ivory-white appearance, and the subcutaneous tissues were thickened. No albuminuria was present. The dried thyroid gland of sheep was given in three-grain doses thrice daily, with the result that a rapid improvement in the corneal condition took place. Finally both cases were cured, but one had a recurrence of the disease in the other eye after an interval of some years. On this occasion the administration of thyroid gland had no effect, and it was not until treatment with mercury was started that improvement occurred.

T. R. Whipham.

Otology, Laryngology, and Rhinology.

Certain peculiarities of mastoiditis in nurslings (*'Arch. Internat. de Laryngol., d'Otol., et de Rhinol.,'* xxiii, *No.* 3).—**Salamo** says that cases of mastoiditis in nurslings are not unusual, he having collected 134 cases from the children's clinic of Broca. He believes that in some of these cases a simple opening of the antrum would have been sufficient, and that the radical operation (in 21 per cent.) was not so often indicated. The mortality was 13 per cent., which is not astonishing when one considers that tuberculosis was often present, and the general condition before operation was frequently poor.

Macleod Yearsley.

Partial congenital atrophy of the nasal mucous membrane: a contribution to the ætiology of perforation of the septum (*'Prag. med. Woch.,'* 1907, *No.* 21).—**Anton,** in the examination of 130 cadavers of children, found three cases of congenital partial atrophy of the nasal

mucous membrane in the anterior part of the septum, and believes that this atrophy can be held responsible in many cases for perforations of the septum. MACLEOD YEARSLEY.

Occlusion of both auditory canals with partial bony obliteration of the tympanic cavity (*'Arch. f. Ohrenheilk.,'* lxx, *pp.* 213–218).—**Török** reported this case in a girl, aged 14 years. The conditions found on examination and operation were: Bilateral occlusion of the external auditory meatus at the inner extremity of the membranous part. The bony external meatus and auricles were normal, as also were the mastoid processes and Eustachian tubes. The tympanic cavities were constricted by bony masses, which, in the direction of the oval windows and promontories, were adherent to the labyrinth walls. On cutting the membranes the hearing was very much improved. MACLEOD YEARSLEY.

Congenital closure of the nares (*'Med. Press,' November* 4, 1908).—**Chiari** has reported on several cases of closure of the posterior nares by a membrane extending from the gums to the roof of the pharynx. He has observed the remains of the same membrane in females fifty years of age. It stretches from the gums to the roof of the pharynx as a smooth, greyish membrane, with a hole in the centre corresponding with the opening of the nares. The patient complains of difficulty in breathing, but nothing in the lungs is found to account for this subjective feeling, and it is not until the membrane is discovered that it can be explained. The hearing also is impaired. The membrane can be removed with a pair of forceps, and this improves both the hearing and respiration. The author discovered the first of these cases in 1885, and since then he has met with ten others. T. R. WHIPHAM.

On the blood and lymph vessels of the tonsils, especially in relation to the question of post-operative hæmorrhage (*'Russische Monatschr. f. Ohrenhlk.,' etc., July,* 1907).—**Orleanksi.**—This work gives very fully the lymphatic and blood supply of the tonsils. GEORGE N. BIGGS.

A case of peripheral unilateral hypoglossal paralysis, with hemi-atrophy of the tongue (*'Wien. med. Wochenschr.,' No* 31, 1907).—**Baumgarten.**—At the age of 1½ years this child was operated on for "glands of the neck." Some little while afterwards it was noticed that the child's speech was becoming indistinct, and that the tongue was directed to one side. The operator thinking that the nerve had been injured at the time of operation, and as there was no involvement of the other cerebral nerves or any brain symptoms, the diagnosis of peripheral paralysis was made. The site of probable injury is described, and there is a summary the literature of the subject. GEORGE N. BIGGS.

Foreign body in left bronchus discharged in a mass of pus on bronchoscopic examination (*'Arch. Internat. de Laryngol., d'Otol., et de Rhinol.,'* May–June, 1908).—**C. Compaired** reports a case of a child, aged 7 years, in whose left bronchus there was a pine scale which had been in position for twelve months and had given rise to an extensive broncho-pulmonary abscess. No foreign body was revealed on radioscopic examination, but the extent of the abscess was defined. Under chloroform the bronchus was examined and the abscess drained, and in the last discharge to come away the scale was found. The child made a rapid recovery.

GEORGE N. BIGGS.

Surgery.

The treatment of hip disease (*'Canadian Journ. of Med. and Surg.,' November*, 1908).—**McKenzie** describes the treatment he adopts in cases of tubercular disease of the hip, in which direct exposure to the sun's rays is an important factor. The mortality in these cases during the author's first ten years' work was about 10 per cent., but during the second decade it was much less. The improvement in this respect could only be attributed after a careful review of the methods employed to the greater use of direct sunlight. The patient is kept in a very simple cot, known as the Bradford frame, which consists of an oblong rectangular frame, eleven to fifteen inches in width, and about a foot longer than the patient's height. This is covered with a sheet of canvas, which is laced down. At either end is a bracket for applying extension and counter-extension, and a cage is placed over the feet to prevent any tendency to equinus or excessive rotation of the limb. The frame is easily carried from one place to another without disturbing the patient. Every day both in summer and winter the patient is carried out of doors so as to be fully exposed to the sun's rays, and when the weather is suitable the affected part is fully exposed without any covering, and this is done during the greater part of the year without discomfort. At the commencement the length of time during which the patient is exposed should be regulated so as to avoid undue sunburn. The patient should at times lie upon his face and at others upon his back, so that all parts may be reached by the direct rays of the sun. He is kept lying on the frame for several months, not even being allowed to assume a sitting posture. The author is doubtful whether tuberculin has any beneficial effect, but the injection of iodoform suspended in glycerine has proved a valuable aid. Since 1898 the writer has had eight deaths among 166 cases which have been traced; of these two died from asthenia due to hip disease, three from tuberculosis of the lungs, and one from tubercular meningitis. In two cases amputation at the hip-joint was performed, both with good results.

T. R. Whipham.

Two further cases in children of cicatricial, so-called impermeable stricture of the œsophagus; œsophagoscopy; cure (*'Bull. de la Soc. de Péd. de Paris,' May*, 1908).—**Guisez'** case (No. 1) was a child, aged $4\frac{1}{2}$ years, who had swallowed a mouthful of caustic potash. After some initial symptoms of dysphagia and dyspnœa the child apparently got quite well. Two months later it was noticed that solids could not be swallowed without great difficulty; as this difficulty increased the child was taken to hospital. After failure to pass a catheter œsophagoscopy was performed. Two strictures were found, which were dilated till No. 28 could be passed with the use of circular electrolysis. The negative electrode seems to help dissolve scars which formerly resisted ordinary dilatation, and by its use it is only necessary to repeat the dilatation every two or three months. In this case the result was excellent. The second child was aged $10\frac{1}{2}$ years, and the stricture was caused by the same poison. Here no serious consequences were seen till four months after the accident, when the child could only swallow liquids. Œsophagoscopy was performed under chloroform and dilatation effected up to the passage of No. 30. The author has used this method during the last three years; out of twenty-three cases only four have been found where the operation could not be performed; these were very old and fibrous structures.

M. D. Eder.